UNIVERSITY OF ILLINOIS
LIBRARY

Class 619.05
Book AV
Volume 20
cop 2

VETERINARY MEDICINE
LIBRARY

My 08-15M

Return this book on or before the
Latest Date stamped below.

University of Illinois Library

NOV. 24

Dec 5

L161—H41

35F
28
W.J.

AMERICAN VETERINARY REVIEW,

EDITED BY

PROF. A. LIAUTARD,

Foreign Corresponding Secretary of the Central Society of Veterinary Medicine (Paris),
Honorary Fellow of the Royal College of Veterinary Surgeons (England),

AND

PROF. ROSCOE R. BELL,

WITH THE COLLABORATION OF

Prof. W. J. COATES, M.D., D.V.S., of the American Veterinary College.
Prof. O. SCHWARZKOPF, V.M., of the Chicago Veterinary College, Chicago, Ills.
Prof. P. J. CADIOT, of the Alfort School, France.
Prof. WM. L. ZUILL, M.D., D.V.S., late of the University of Pennsylvania (Vet. Dept.).
Prof. W. L. WILLIAMS, V.S., Cornell University, Ithaca, N. Y.
J. F. WINCHESTER, D.V.S., Lawrence, Mass.
NELSON P. HINKLEY, V.S., United States Veterinary Inspector, Buffalo, N. Y.
GEORGE H. BAILEY, D.V.S., State Veterinarian, Portland, Me.
Prof. W. B. NILES, D.V.M., Ames, Ia.
L. H. HOWARD, D.V.S., Boston, Mass.
W. L. LABAW, D.V.S., Harvard Veterinary Dept., Mass.
GEO. H. BERNS, D.V.S., Brooklyn, N. Y.
Prof. H. D. HANSON, New York City,
And several others.

VOLUME XX.

NEW YORK:
PUBLISHED BY THE EDITORS,
141 WEST 54th STREET.

619.05
AV
v.20
cop. 2

Printed by Clark & Zugalla, New York.

TABLE OF CONTENTS, VOLUME XX.

EDITORIAL.

Beginning Volume XX............. 1
Virginia to the Front................ 3
An Unmerited Slur from Within..... 3
New York Legislation............. 4
Massachusetts Cattle Commission.... 5
The Profession in Illinois........... 95
And Now Canada................. 98
Buffalo.......................... 99
The Prize of the U. S. V. M. A..... 100
Tuberculin and Mallein............ 173
Regulation of Veterinary Practice in France......................... 176
International Veterinary Congress of Chicago........................ 177
Exportation of Horses.............. 177
The Chicago Veterinary College..... 178
Honor to Whom Honor is Due...... 243
An Assault upon American Veterinary Science......................... 245
Tuberculosis, Acquired and Hereditary 247
A Valuable Contribution........... 248
Progress of Veterinary Education.... 248
What Means this Lethargy?........ 249
New York State Legislation........ 250
Buffalo, the Veterinarians' Mecca.... 313
A Government Biological Survey.... 319
Massachusetts Cattle Commission.... 319
The Buffalo Conventions and the Review.......................... 383
Scientific Chronicles............... 384
Uniformity of Degree and Education. 387
Dr. Liautard's Home-Coming....... 388
Bovine Tuberculosis............... 389
The Buffalo Veterinary Conventions.. 453
Guard Your Veterinary Laws....... 455
Bovine Diphtheria...............
Uniformity of State Veterinary Examining Boards...................... 541
False Report of Pleuro-Pneumonia... 542
The Army Bill................... 543
A Good Appointment.............. 544
Opening of the New York State Veterinary College..................... 545
Veterinary Dentistry................ 609
The Army Bill.................... 611
A Test......................... 612
Section Work in the U. S. V. M. A.. 612
Veterinary Homeopathy........... 613
Veterinary Examiners of Maryland... 613
The Massachusetts Board of Cattle Commissioners.................. 677
Opening Addresses............... 681
Attendance by Contract........... 683
To Correspondents............... 684
More than One!................. 747
Veterinarians of New York, Kill this Bill......................... 748
A Very Important Legal Decision... 749
Another State Veterinary College.... 751
Vivisection in the District of Columbia 751
The Thermo-Cautery............. 752
Tuberculin and Mallein Tests....... 752
Veterinary Bills Before the New York Legislature...................... 823
Vivisection in the Pulpit........... 826
A Veterinarian's Triumph.......... 827
Confederation of Scientific Investigation.......................... 828
Nashville to Have the Meeting of 1897. 829
Veterinarians in the State Militia..... 829

ORIGINAL ARTICLES.

How Golden-Rods may be Poisonous. By H. H. Rusby................ 5
Parturient Apoplexy. By W. C. Covey 8
Hæmorrhagic Enteritis. By W. L. West......................... 14
Some Veterinary Ophthalmology. By George G. VanMater............. 18
Report on Southern Cattle Fever. By W. H. Harbaugh............... 21
Osteoporosis. By Geo. C. Faville.... 28
Bone Softening. By M. D. Hoge... 37
Aspiration Pneumonia following Abscess of Steno's Duct. By John Greer......................... 40
Professional Ethics. By J. P. Lewis. 42
Virginia's New Veterinary Law..... 45
New Remedies.................. 48
Milk as a Factor in the Causation of Disease. By Jno. M. Parker..... 101
Pathogenesis and Development of Disease. By W. L. Rhoads........ 113
The Theories of Immunity. By E. P. Niles......................... 118
Azoturia. By F. S. Allen.......... 123
The Pleasure of Being a Veterinarian. By J. C. Michener.............. 127
Shoeing. By E. L. Morgenroth..... 129
Heart Disease. By J. A. Couture... 179
Some Remarks on Periodic Ophthalmia. By Geo. G. Van Mater.... 180
Inaugural Address by Dr. F. W. Skaife......................... 185
Scientific Breeding. By J. R. Kelso. 190
Equine Relapsing Fever. By T. W. Watson........................ 196
The Tumors of the Sinuses and of the Superior Maxillary Bone......... 251
Contagious Diseases in Kansas...... 260

6

114950

iry Bacteria ... 267
Sources of Sound and Healthful Animal Food. By A. S. Heath ... 320
Tuberculosis. By U. B. McCurdy ... 323
Infectious Pneumonia. By F. C. Wilkinson ... 330
Preventive Inoculation Against Contagious Pleuro Pneumonia. By E. Biart ... 335
Address by Professor Liautard ... 338
Food—Its Agricultural and Animal Industry Aspects Discursively Discussed. By A. S. Heath ... 390
On the Extermination of the Cattle Tick and the Disease Spread by it. By Cooper Curtice ... 394
Bovine Tuberculosis, a Question of State Medicine. By W. H. Harbaugh ... 401
Diseases and Injuries of the Foot. By John Scott ... 408
Bovine Diphtheria. By J. F. Winchester ... 458
Food—Its Use and Abuse. By A. S. Heath ... 473
Navicular Disease (Navicular Arthritis). By H. S. Drake ... 476
Hyposulphite of Soda in Tetanus. By M. J. Jones ... 480
Fighting Tuberculosis in Virginia. By W. H. Harbaugh ... 486
An Anomalous Disease of the Horse. By T. B. Newby ... 490
Diabetes Mellitus in Dogs. By Frank H. Miller ... 545, 630
Food—Its Economy and Waste. By A. S. Heath ... 552
Hereditary Influence. By W. H. Lowe ... 555
Indigestion or Dyspepsia. By Wm. Gall ... 560
Tetanus. By W. H. Lawes, Jr. ... 565
Homeopathy in Veterinary Practice—Why I do not Practice it. By Jacob Helmer ... 614
Neutral Red in Histology and Bacteriology. By Pierre A. Fish ... 626
Canine Distemper. By Howard B. Felton ... 636
Therapeutics.—A Criticism. By E. L. Quitman ... 685
Veterinarians as Sanitarians. By Claude D. Morris ... 697
Infectious Ophthalmia of Cattle. By W. F. Weese ... 707
Some Experiences in the South. By W, H. Dalrymple ... 753
Communicable Animal Diseases. By W. Herbert Lowe ... 765
Fistulous Withers. By W. J. Martin. 771
Inversion of the Uterus. By E. S. Fry 777
The Board of Health and Tuberculosis. By A. S. Heath ... 830
Toe-Clip Injuries. By Jas. A. Waugh. 848
Some Interesting Cases in Practice. By H. A. Spencer ... 838
The Examination of Horses for Soundness. By A. J. Burkholder ... 834
Acetanilid (or Antifebrin). By F. S. Allen ... 842

REPORTS OF CASES.

A Partial Rupture of the Stomach and Recovery. By Geo. Jobson ... 50
Imperforate Anus and Recto-Vaginal Fistula. By Geo. Jobson ... 51
Flatulent Colic, etc. By M. J. Treacy 52
Fracture of the Zygomatic Bone, Removal and Recovery. By W. E. Smith ... 53
A Very Strange Case. By Jno. Minchin ... 54
Tetanus — Anti-toxine — Death. By Roscoe R. Bell ... 55
Rupture of the Colon—Peritonitis and Death. By W. F. Derr ... 57
Paraplegia. By Herbert S. Perley ... 58
Fatty Tumors. By E. D. Bachmann 60
A Peculiar Accident—Rupture of the Œsophagus. By W. H. Gribble ... 145
Uterine Fibroma. By W. H. Curtis. 147
Fatty Tumor in a Dog. By W. H. Jackson ... 148
Strychnia in the Treatment of Parturient Fever. By W. H. Dalrymple. 149
Myelitis in a Dog - Recovery. By Robert W. Ellis ... 150
Traumatic Pericarditis. By Frank Bales ... 151
Rupture of a Bronchial Tube. By H. D. Fenimore ... 153
Amputation of the Uterus of a Cow. By W. H. Curtis ... 153
Tuberculosis of a Cow and Goat on the same premises—Was it Contagion or Coincidence? By G. Leo HagenBurger ... 203
Periodic Vomition due to Gastric Lesions. By James A. Waugh ... 204
Punctured Wound of a Foot. By Robert Robb ... 206
Laceration and Puncture of Thorax in a Dog. By G. Leo Hagen-Burger ... 207

A Needle in the Tongue of a Horse. By W. J. Martin................ 208
Pharyngeal Choke. By John Minchin 209
Rupture of the Heart. By Wm. V. Lusk......................... 210
Gastritis Complicated with Laminitis from Eating Prunus Virginiana. By W. F. Derr.................... 210
Chorea Cured in a Dog. By Francis Abele......................... 211
Tubercular Disease in the Horse..... 268
Inspissated Bile in the Bile Ducts.... 270
Two Cases of Persistent Hymen..... 273
Poisoning by Paris Green. By Coleman Nockolds.................. 343
A Remarkable Case of Tetanus. By Robert Robb................... 345
Gunshot Wound in a Dog—Remarkable Recovery. By Jas. McDonough 347
Embryotomy — Amputation of Fore Limbs and Thoracic Evisceration. By L. D. Ives.................. 348
Four Cases of Open Joint. By W. H. Gilbert......................... 347
Angina Pectoris in a Pug Dog. By A. Liautard...................... 412
Barium Chloride. By Robert W. Ellis.......................... 415
Two Rare Cases of Ascites. By Chas. W. Heitzman.................. 417
Prolapsus Ani et Recti. By W. L. West......................... 418
Extensive Disease of the Foot. By Geo. A. Clark.................. 419
Punctured Wound in Pelvic Cavity. By W. F. Derr................. 492
A Case of Subnormal Temperature. By W. H. Harbaugh............ 493
A Singular Case of Tuberculosis in a Cow. By John Minchin......... 494
Abdominal Abscess. By Wm. N. Colman......................... 495
Stricture of Urethra. By J. B. Hollenbeck......................... 496
Stringhalt in Right Hind Limb. By W. H. Curtiss.................. 497
Salivary Calculus. By W. H. Curtiss 498
Lateral Curvature of the Spine and Ventral Hernia in a Fœtal Calf, By W. J. Martin.................. 567
Poisoning by Loco Weed. By Coleman Nockolds.................. 569
Missed Labor — Malpresentation — Cæsarian Section—Recovery. By T. B. Rogers.................. 571
A Monstrosity. By A. W. Young.. 572
Tetanus — Anti-Toxine—Death. By Oscar Fausner................. 572
Quick Recovery from Rupture of Flexor Metatarsi. By Francis Abele..... 573
Vivisection Outdone—A Peculiar Case. By Francis Abele................ 573
Congenital Hydrocephalus.......... 574
Lime Inhalations in the Treatment of Pseudo-Membranous Croup. By Drs. Pierre and Archibald........ 652
Some Interesting Cases from the American College Hospital. By Members of the Staff................ 654
Protracted Gestation. By R. W. Ellis. 656
Cerebro-Spinal Meningitis. By Saml. S. Buckley.................... 711
Leucocythæmia in a Cow. By Prof. S. Stewart...................... 714
Two Cases of Vomition with Different Results. By Dr. J. P. Laws..... 715
Sarcoma of the Nasal and Maxillary Sinuses. By Mr. C. Tietjens..... 716
Mallein in Suspicious Farcy. By G. B. Blackman.................. 717
What Was It ? By F. A. Zucker.... 718
A Rectal Balloon. By F. A. Zucker 719
A Horse that was Homesick. By F. A. Zucker...................... 720
The Goat Cannot Always Eat Show-Bills with Impunity. By W. C. Siegmund...................... 789
Removal of Clitoris for Viciousness. By S. H. Johnston.............. 790
Odontoid. By S. H. Johnston...... 790
Actinomycosis in the Horse. By W. P. Stranghan...................... 855
An Untoward Result from the Use of Barium Chloride. By W. P. Stranghan.......................... 855
Inversion of the Uterus—Amputation by a Novice—Recovery By John Minchin......................... 854
Enteralgia and Gastralgia. By Bryer H. Pendry.................... 853

EXTRACTS FROM EXCHANGES.

ENGLISH REVIEW—

A Singular Case of Roaring....... 62
An Elbow Case................. 62
Inversion of the Bladder in Mares. 63
Purpura Hæmorrhagica.......... 63
Ruptured Spleen............... 64
Foreign Body in Pharynx......... 64
Obstetric Cases................. 214
Effect of Morphia on a Bear....... 214
Parasitic Enteritis and Embolism in the Horse..................... 215
Ventral Hernia................. 215

Septicæmia after Castration in a Cat. 216
Anchylosis of the Jaws in a Dog... 216
Choking in the Horse 216
Vomition in a Horse 216
Action of Chloral in Milk Fever... 279
An Occult Foot Lameness 279
A Peculiar Case of Rabies 279
The New Photography in Veterinary Practice 280
Three Uncommon Cases 280
Tuberculosis of the Horse 420
Diphtheretic Condition of the Urinary Bladder 420
Fracture of the Premaxillary 420
Barium Chloride 421
Hypertrophy of the Prostate Gland.. 421
A Wandering Tooth 421
A Peculiar Pharyngeal Case 422
Ruptured Diaphragm 525
Rupture of the Diaphragm 525
Fistula of the Parotid Duct 526
Fracture of the Pelvis for a Time Without Displacement 526
Fracture of the Scapula 527
Tuberculosis in Horses 582
Parotid Duct Fistula 582
Extensive Abdominal Wound in a Filly 582
Large Colon Adhering to the Pelvis and to the Rectum—Rupture of the Intestines 583
Invasion of the Posterior Aorta by a Sarcoma 583
Autoplasty in the Horse 584
Strongulus Tetracanthus 656
Period of Incubation of Rabies in Dog 656
Dislocation of the Third Cervical Articulation 657
Intestinal Obstruction in the Horse. 657
Rupture and Displacement of the Kidneys in a Colt 795
Osteitis of the Trochanter 796
Intracapsular Hæmorrhage of the Liver 796
Metastatic Laminitis following Metritis 797

GERMAN REVIEW—

Therapeutic Action of the Chloride of Barium 64
Statistics upon the Treatment of Colic with Barium Chloride 66
The Function of the Muscular Coat of the Bladder in Normal Micturition 67
Removal of Calculi from the Dog's Bladder by Sectio Alta 217
Creolin Poisoning in Horses 218
A Case of Congenital Tuberculosis. 281
Treatment of Hoof Cancer 282
A Study of the Physiological and Therapeutical Effects of Barium Chloride 283
Concerning the Therapeutical Effects of Different Remedies 286
A Case of Morphine Idiosyncrasy in a Cow 286
Leucæmia in a Cat 353
Tannalbin as an Intestinal Astringent 355
Acute Nephritis following Internal and External Administration of Spirits of Turpentine 356
A Contribution to the Diagnosis of Tuberculosis 422
Equine Vomiting 425
Impaction of an Oat Shell in the Cornea of an Ox 527
Hydramnion a Decided Cause of Rigidity of the Cervix in a Cow. 528
Dropsy of the Subcutaneous Connective Tissue of the Head and Neck of a Fœtus, etc 529
Dropsy of the Kidneys of a Foetus as a Hindrance to Delivery 529
The Best Methods of Anæsthesia for Domestic Animals 530
Basedow's Disease in the Dog 584
A New Find in Leucæmic Blood .. 585
Concerning the Phagocytic Power of the Blood of the New Born ... 585
Shoulder Lameness in a Horse 585
Hairballs in the Œsophagus of Cows 585
Obstruction of the Œsophagus in Cattle 658
Marked Dilatation of Both Steno's Ducts in a Cow 658
Transmission of Anthrax through Hides and Leather 659
Strongylus Subtilis a Hitherto Unknown Human Parasite 659
Natural Restitution of a Torsion of the Uterus in a Cow 659
Influence of Venesection Upon the Specific Gravity of the Blood 659
Bacterial Powers of Dog's Blood, etc. 660
Pancreatic Degeneration in a Horse. 722
Tuberculin as a Means of Diagnosis in Suspected Tuberculosis of Cattle 723
Pellotin, a New Hypnotic 723
Local Anæsthesia with Heated Cocaine Solution 724
Resection of a Strongly Cicatrized Tendo Achilles 724
Glycerine as an Obstetric Help 792

- Iodine and Iodide of Potash as Antidotes in Purpura Hæmorrhagica. 792
- Hæmorrhagic Meningitis in a Cow. 793
- Diphtheria in a Cat 793
- Congenital Tuberculosis in Calves.. 794
- Treatment of Foreign Bodies in the Œsophagus 795
- Eucaine in Ophthalmology 795
- Fistula of the Pharynx............ 859
- Actinomycosis of the Tongue...... 860
- Eradication of Herpes Tonsurans. 860
- Feline Diphtheria................ 860
- Abscess of the Tongue of a Horse.. 861
- Œsophageal Polypi in a Cow...... 861
- Successful Results Obtained from a New Dusting Powder, Glutol... 861
- Formalin as a Disinfectant........ 864
- Formalin an Excellent Remedy in Foot and Mouth Disease........ 864
- A Variety of Bacillus Anthracis... 864

FRENCH REVIEW—

- Suppurative Phlebitis—Deep Abscess of the Shoulder............... 212
- Rheumatismal Synovitis and Endocarditis....................... 212
- Jaundice in a Dog................ 223
- Facial Paralysis in a Dog due to Tuberculous Otitis............. 213
- Opening of the Rectum in the Vagina of a Cow..................... 214
- Umbilical Hernias—Tetanus and Antitetanic Serum............. 427
- Abscess of the Intraventricular Septum in a Cow................ 427
- Cervical Œsophageal Jabot—Recovery........................ 427
- A Case of Caries of the Incisors in a Horse...................... 428
- Rupture of the Rectum in a Horse While Cast.................. 428
- Tuberculosis of the Rachidian Canal in a Cow.................... 428
- A Case of Vomiting in a Horse.... 429
- Multiple Synovitis of the Anterior Biped of a Horse.............. 429
- Pharyngo-Laryngeal Angina...... 429
- Tearing of the External Projection of the Femoral Condyle........ 429
- Œsophogeal Obstruction in a Slut.. 530
- Curious Case of Recovery in a Cribber 531
- Nervous Trouble Due to a Chronic Disease of the Liver........... 531
- Delivery in a Cow of a Viable Fœtus on the 221st day of Gestation.... 532

AMERICAN REVIEW—

- Embolism of the Aorta........... 220
- Tuberculin as an Antipyretic...... 221
- A Very Large Urethral Calculus.. 221
- Necrosis Totalis of the Scapula.... 865
- Outward Luxation of the Femur.... 866
- Acute Nephritis in a Horse....... 866

ITALIAN REVIEW—

- Diagnosis of Glanders made with Mallein Confirmed by Inoculation 289
- Male Internal Pseudo-Hermaphrodism......................... 289
- Enucleation of the Right Eye of a Dog......................... 290
- Gastrophilus Equi and Perroncito Method 290
- Nasal Polypus Simulating Glanders in a Horse.................... 290
- Enterotomy in a Slut............. 291
- Measures of Military Sanitary Police 291
- Lingual Actinomycosis in a Cow... 359
- A Case of Nasal Polypus Simulating Glanders.................... 359
- Glanders Diagnosticated by Mallein and Confirmed by Inoculation to the Donkey................ 360
- The Injections of Chloride of Sodium in Shoulder Lameness.......... 360
- Treatment of Quarter-Crack by Firing...................... 430
- Amputation of the Uterus in a Cow. 430
- Contribution to the Study of Canine Tuberculosis.................. 430
- The Micro-Organism of Dog Distemper 431
- Researches upon the Most Common Causes of Sterility in Cows..... 431
- Feeding Animals with Flour of Cocoa...................... 431
- Upon the Existing Power of Spores of Anthrax................. 421
- Ocular Prothesis in the Horse..... 522
- Diabetes Following Chronic Hydrocephaly in Cows.............. 523
- Upon the Way to Extract Calves in Breech Presentation........... 523
- Farm Animals in Italy........... 523
- Arecoline in the Gastro-Intestinal Affections of Horses and Cattle.. 587
- Actinomycosis in a Lizard........ 587
- Statistics of the Domestic Animals in Italy, etc.................. 587
- Castration of the Cow............ 588
- Bots in Horses.................. 660
- Glanderous Appendicitis.......... 661
- A Case of Tuberculous Basilar Leptomeningitis.................. 724
- Six Repeated Attacks of Periodic Ophthalmia in Six Days—Preservation of the Eye.............. 725

Spasm of the Diaphragm......... 725
Peculiarity of the Technic of Local Anæsthesia by Cocaine......... 725
Rupture and Prolapsus of the Left Eye, etc.................... 725

Belgian Review—

Hypertophy of the Prostate in a Dog 356
Accidents Observed in Race-Horses. 357
Actinomycosis of the Rumen and Reticulum.................. 358

Spanish Review—

Professional Chronicle........... 586
Contribution to the Study of the Diseases of the Spinal Cord..... 586
Statistics....................... 587

REVIEW OF BIOLOGY.

Action of some Electrical Modalities upon Bacterian Toxines.......... 223
Effects of the Direct Reflex and Central Excitation of the Mesenteric Vaso-Motor Nerves.............. 224
Inoculation of the Tuberculosis of Gallinaceous to Mammalia........ 225
Accidents Produced by Ascarids..... 225
Glanderous Scirrhosis of the Liver.... 361
Experimental Lesions of the Liver by Intravenous Injections of Microbian Toxins................. 362
Propagation of Tuberculosis of Cattle by Fæcal Matters................ 367
Inoculability of Tuberculosis of Mammals to Birds.................. 363
Congenital Immunity of Ovine Variola 588
Preventive and Curative Serum of Variola........................ 588
Effects of Mallein after Injection in the Portal System................. 589

REVIEW OF PHYSIOLOGY.

Assistance to a Cerebral Hemisphere by the Other..................... 364
Upon the Alterations of the Nervous System During Inanition......... 364
The Effect of Suppression of Water in Animals....................... 364
Experiments upon the Pituitary Gland 365
Influence of the Total or Partial Suppression of the Hepatic Function upon Glycemia in Normal and Diabetic Animals.................. 365

REVIEW OF EXPERIMENTAL PATHOLOGY.

Upon the Toxicity of the Muscular Juice of Thyroidectomized Animals. 305
New Observations upon the Diagnostic and Curative Effects of the Products of the Bacillus of Glanders........ 305
Regeneration of the Spleen in a Rabbit........................... 306
Anti--Anthrax Serum.............. 306
A Case of Regeneration of the Spleen. 306
Serotherapy of Tuberculosis......... 726
Experimental Researches on the Aviary Origin of Human Diphtheria... 726
Immunity Given to Rabbit by the Injection of Anti-streptococcic Serum of Horses and a New Mode of Using It........................... 727

REVIEW OF BOVINE PATHOLOGY.

Congenital Atresia of the Uterine Neck—Hysterotomy—Embryotomy—Recovery........................ 728
Peculiar Cerebral Lesions........... 728

THERAPEUTICAL RECORDS.

Preventive against Tapeworm in Dogs 90
Against the Eczema of Dogs......... 90
Veratrine Against Acute Mammitis... 90
Seat Worms in Dogs—Scabies—Inflamed Tendons — Frost Bites—Warts—Burns—A Purgative Enema—Antiseptic Powder—Rickets in Dogs—Fissure of the Anus....... 226
Antiseptic Adhesive Ointment—Pruritis Ani—Fœtid Nasal Discharge.. 227
Boral—Cutol—New Antilæniacide Solution.......................... 302
Borate of Soda..................... 303
Therapeutic Notes.................. 376
Stability of the Solutions of Iodide of Potassium or Sodium............ 589
Treatment of Chicken Cholera....... 590
Nalacine—Tannalbine.............. 590

SOCIETY MEETINGS.

Keystone Veterinary Medical Association.......68, 157, 292, 594, 736, 806
Veterinary Medical Association of New York County........70, 154, 231, 298, 593, 666, 732, 797
Massachusetts Veterinary Association. 71, 88, 297
Wisconsin Society of Veterinary Graduates........................71, 811
Pennsylvania State Veterinary Medical Association..73, 158, 227, 437, 663
North Dakota Veterinary Medical Association........................ 83
Connecticut Veterinary Medical Society.........................85, 298
Montreal Veterinary Medical Association..........................86, 161
Ontario Veterinary College Medical Society......................87, 597
California State Veterinary Medical Association..............155, 432, 799
American Veterinary College Medical Association..................... 163
Alumni Association of the American Veterinary College.............. 230
New Hampshire Veterinary Medical Association........233, 438, 596, 740
Pennsylvania State Board of Veterinary Medical Examiners......291, 368, 669
Missouri Valley Veterinary Association 296, 740, 810
United States Veterinary Medical Association.................366, 498, 741
Association of Veterinary Faculties of North America..............376, 523
Illinois State Veterinary Medical Association....................434, 735
Virginia State Veterinary Medical Association...................435, 808
Maine Veterinary Medical Association.......................437, 807
Niagara and Orleans Counties Veterinary Medical Association........ 438
New York State Veterinary Medical Society........................ 514
Veterinary Medical Association of New Jersey......................... 595
Chicago Veterinary Society......597, 811
Colorado Veterinary Medical Association.................. 668
Iowa State Veterinary Medical Association.......................739, 811
The Ontario Veterinary Association.. 804
Indiana Association of Veterinary Graduates....................... 809

CORRESPONDENCE.

The U. S. V. M. A. Prize.......89, 166
To the Veterinarians of Ohio........ 90
Ohio Veterinarians to Meet in Buffalo. 167
Poisoning by Ergotized Oats........ 167
Mallein Brute..................... 236
An Inquiry.—International Veterinary Congress at Chicago............. 236
Back Numbers Wanted and to Sell... 236
As to the Illegality of Tail-Docking.. 237
Mallein as a Cure for Glanders...... 237
Who Has Them?................. 299
A Review of Legislation in New York During the Past Year........... 299
The Embargo on Foreign Cattle..... 301
The Treatment of Parturient Apoplexy........................ 301
About the American Ring Twitch.... 302
Horse-Shoeing.................... 377
Uniform Degree and One Examining Board for Veterinarians in the United States....................... 440
Massachusetts Cattle Commission.... 442
Horse-Shoeing.................... 598
As to Non-Graduates Practicing..... 601
Veratrine Poisoning in Mammitis..... 601
A Defence of those "Peculiar Views from a High Official".......... 669
Sectional Work in the U. S. V. M. A. 671
The Pasteur Monument Fund....... 741
Prof. Law's Inaugural Address...... 812
Mallein Vindicated................ 869
Some Veterinary Thoughts from Down in Dixie....................... 871
The Bill to Create a New York State Veterinarian.................... 867

BIBLIOGRAPHY.

Maréchalerie (Horse-shoeing)...... 307
Practical Guide of Dosimetric Medicine........................... 307
Anæsthetics in Veterinary Surgery... 379
Internal Pathology of Domestic Animals.......................... 591
Compend of Veterinary Materia Medica 592
Industries of Abattoirs.............. 661

Treatise of Comparative Pathology and Therapeutics of Man and Domestic Animals 662
Text-Book of Veterinary Medicine... 813
Proceedings of the United States Veterinary Medical Association....... 813
Insects Affecting Domestic Animals.. 814

VETERINARY COLLEGE NEWS.

A. V. C. Commencement Notes..... 94
Commencement Exercises American Veterinary College............... 134
Commencement Exercises Ontario Veterinary College.................. 136
Commencement Exercises New York College of Veterinary Surgeons.... 137
Commencement Exercises Kansas City Veterinary College 138
Commencement Exercises McKillip Veterinary College 134
Commencement Exercises Indiana Veterinary College 138
Commencement Exercises Chicago Veterinary College 139
Commencement Exercises National Veterinary College 199
Announcement New York State Veterinary College.................. 371
Announcement Kansas City Veterinary College 372
Announcement American Veterinary College 373
Announcement United States College of Veterinary Surgeons........... 374
Announcement University of Pennsylvania (Vet'y Dept.)............ 374
Announcement National Veterinary College........................ 439
Announcement New York State Veterinary College.................. 440
Announcement Toronto Veterinary College........................ 440
New York State Veterinary College—Inauguration Address by Prof. James Law..................... 645

OBITUARY.

James Hamill, D.V.S............. 304
John Wesley Gadsden, M.R.C.V.S.. 443
David Roberge................... 444
Wilbur D. Southwick, D.V.S....... 444
Prof. G. Colin.................... 445
George Leich, D.V.S.............. 446
W. E. Smith, D.V.S............... 446
John J. Gleason.................. 743
Oren H. Flagg, V.S............... 814
Jose Maria Peralta, M.D., D.V.S... 815
A. J. P. Oort..................... 815

MISCELLANEOUS.

News and Items..91, 169, 238, 308, 379, 446, 537, 603, 673, 742, 816
Communications Received.......94, 168
Peroxide of Hydrogen.............. 140
Board of Veterinary Examiners of Virginia......................... 168
Reviews Wanted................... 172
Back Numbers Review For Sale..... 172
What is Docking?................ 199
Inoculating Against Texas Fever.... 221
That Famous Astor Colt............ 303
Mallein as a Diagnostic for Glanders. 374
Notes of the Bnffalo Meeting........ 534
A Pleasant Trip to Toronto......... 536
Supervision of Milk Supply—A Report of the Veterinary Inspector of the City of Watertown, N. Y......... 574
Peculiar Views from a High Official.. 579
The Colorado Veterinary Bill....... 720
Horses in the United States......... 729
The Original Horse................ 730
The Tuberculosis Campaign in Vermont........................... 731
Vivisection in the District of Columbia 781
Tuberculosis in Massachusetts....... 790
International Case of Identity of a Horse.......................... 855
Bills before the New York Legislature 857

AMERICAN VETERINARY REVIEW.

APRIL, 1896.

EDITORIAL.

BEGINNING VOLUME XX.—Just twenty years ago this month the first number of the REVIEW was issued to the American veterinary public, the centennial year of the Republic. The history of veterinary medicine in this country is almost embraced within the pages of the journal during those eventful years, and we are reasonably certain that we are within the bounds of a truthful assertion when the statement is made that no science nor branch of science has developed more of its possibilities during that period than has veterinary medicine, not even the wonderful unfolding of the mysteries of that department of physics which has given us the marvels of electricity. Not of such importance to our integral life are any of the discoveries of the electrical scientists in comparison with the vital principles and truths made certain by the microscope in the vast new field of bacteriology, which has removed the veil of error and superstition from the eyes of etiological teachings, given us weapons with which to combat the living organism which is known to be the direct factor in the production of disease and death. As that microbe of disease has flourished and grown in an inviting pabulum in its host, producing and sending through the life current of its victim its deadly ptomaines and toxines, so has the bacteriologist labored without the body to find an anti-toxine which would effectually check the effects of his enemy within the living individual. Nor has he been without success; for we have already in common and successful use a number of such abortive agents, many of which have the unqualified support of the public on account of demonstrated merit.

Scarcely less wonderful has grown the profession in numbers, education, capacity—in length, breadth and avoirdupois; better in all respects, from whatever line of vision. The double decade has witnessed the cementing of fraternal feeling in the establishment of associations in almost all States for the study of science, the interchange of views, and the fostering and enlarging of the spirit of progress; it has seen seats of education in the specialty become implanted at various centres, and the yearly broadening of the curriculum and the facilities for dispensing modern teachings, and, above all, the voluntary enlargement of the period of attendance, from the simple feeling of justice that the augmentation of the amount to be taught required a longer period in which to teach it. It may have been absolutely true that the amount of scientific knowledge possessed then could be transmitted in the restricted course, and equally true that in its expanded form the longer period is necessary.

The United States Veterinary Medical Association is the parent of the AMERICAN VETERINARY REVIEW, and the child is especially proud of its progenitor, while we feel certain there is no occasion for the father to deny his offspring, as the weakling which once struggled with a few pages of scientific material, contributed by a handful of devoted and enthusiastic men, is now entering robust manhood with a body of the strongest minds of modern times, not only of this but all countries where scientific veterinary medicine exists. From its limited number of pages it has grown to know no bounds, its limitations being decided by the demands upon her columns. Every year has brought its improvements, and hereafter every month will mark the advancement. She is more thoroughly equipped to-day than ever, and the profession—which has made her what she is—shall reap the reward of her opportunities. To the members of the profession who contribute to her pages, much more than to the executive staff, is due the credit of this, for without their gracious assistance, all else were futile. Then to our collaborators, correspondents and friends throughout the country we extend our heartfelt thanks and congratulations upon this auspicious occasion.

VIRGINIA TO THE FRONT.—The following letter from President Harbaugh, of the Virginia State Veterinary Medical Association, explains itself:

RICHMOND, VA., March 5, 1896.

Editor American Veterinary Review :

DEAR SIR.—I send you herewith copies of two laws enacted by the legislature of Virginia at its recent session.

The law to regulate the practice of veterinary medicine and surgery in this State was instigated, framed, worked for and obtained solely by the untiring efforts of the Virginia State Veterinary Medical Association.

Our State association has been in existence but two years, and during that time it has placed the profession upon an equal footing with other learned professions, and has commanded the respect and recognition, not only of the people at large, but also of the General Assembly of Virginia.

When you again call the roll of States having proper veterinary legislation, score one for Virginia.

" Old Virginia never tire." Respectfully,

W. H. HARBAUGH.

The little handful of veterinarians who, two years ago, formed the nucleus of what is now a vigorous, enthusiastic and intelligent veterinary association, have much to be proud of, and well deserve the compliments that are being showered upon them from all over the country for their devotion to their profession and their fair commonwealth. Their work has been herculean, but the words of Cardinal Richelieu were ever before them: "There's no such word as fail." The character of their meetings is of the highest order, and for the paucity of their membership the amount and scope of their proceedings are worthy of all praise. In elevating the profession in the Old Dominion, the association can have the double satisfaction that her example will accomplish good in every State where there exists a veterinary society, and redound to the benefit of science everywhere. The act referred to in Dr. Harbaugh's letter will be found on another page.

AN UNMERITED SLUR FROM WITHIN.—Dr. F. S. Billings is contributing a series of articles upon "Veterinary Colleges and Education" to the *Turf, Field and Farm*. In the issue of March 6th there appears Article No. VIII., the first one that has come to our notice, and we trust the last of its kind that is to appear, though the installment ends with the note, "To be continued." Near the beginning of this article occurs this paragraph:

> "Were I not unfitted by nature for human practice I should be a physician, the city associations of the veterinarian being such that I cannot see how any educated and self-respecting man can assimilate with them. The veterinarian in cities is in the hands of grooms and horse dealers and forced to be more or less companionable with a class of men the less he has to do with the better. For this reason I advise students to take even smaller practices in country districts wherever they can find such promising a fair living."

Either Dr. Billings does not know what he is writing about or else his experience has been such as he has depicted in the above extract, and he speaks of the status of the city veterinarian and his environments from personal contact. We are quite sure that the general remarks which he indulges in do not truthfully portray the typical city practitioner, who has the opportunity and, as a rule, lives in an atmosphere of respectable dignity, the picture which he has drawn being quite the exception, and applicable only to such men as would fall under such influences whether in the metropolitan or rural districts. The college-bred American veterinarian of to-day is a gentleman in character and education, and the calumny of Dr. Billings is in poor taste, especially when the remainder of his article is read, consisting, as it does, of an egotistical eulogy of himself, and writing for a journal widely circulated among the veterinarians' best patrons, whose good opinions of the profession as a whole are much to be desired; and, therefore, the strictures referred to could hardly have been expected from a member of the profession.

NEW YORK LEGISLATION.—Dr. Arthur O'Shea, chairman of the Legislative Committee of the New York County, and member of the same committee of the State Society, has addressed a letter to the local veterinarians, urging them to write personal letters to Senator Malby, Chairman of the Codes Committee, insisting upon arousing the Jury Bill from the slumbering condition into which it relapsed after reaching his committee. Every metropolitan veterinarian should follow the suggestion, as well as interesting his representative in the manifest injustice which has been done his constituents. The Bill is known as "An Act to amend sections 1081 and 1127 of the Code of Civil Procedure, being Senate Bill No. 227." An act to enable James Wixon, of Steuben County, to practice veterinary medicine and surgery as a profession, has passed the House, and is now before the Judiciary Committee of the Senate, of which Senator Lexow is chairman. O'Shea states that this man is entirely unworthy, and advises a vigorous protest by veterinarians throughout the State.

MASSACHUSETTS CATTLE COMMISSION.—We have received the report of this Commission, which is most exhaustive. That portion which refers to the tuberculin test is especially interesting, showing, as it does, the experience of the stockkeeper with reference to the effect of the inoculations upon the milk secretion. The letters received in answer to their circular of inquiry numbered 243, of which only 45 were unfavorable to the test.

WE REGRET to announce the serious illness of Prof. R. S. Huidekoper, of the *Journal of Comparative Medicine*, from pleuro-pneumonia, at his home in this city.

ORIGINAL ARTICLES.

HOW GOLDEN-RODS MAY BE POISONOUS.

By H. H. RUSBY, M.D.,
Professor of Botany in the American Veterinary College.

Since I have been made responsible in the February issue of the REVIEW for the statement that golden-rods are poisonous to horses, notwithstanding that I have never made the statement that they are so in themselves, it seems desirable that I here state what little I know of this obscure subject.

Late in August, 1891, Dr. Jacob Helmer, of Scranton, Pa., called upon me to consult in reference to the poisoning of some valuable racing stock in a pasture near that city. He had carefully and repeatedly examined the pasture with a view to the detection of known poisonous plants, but without success. He had studied his cases very thoroughly and was able to give a perfect account of the symptoms, upon which I expressed the opinion that no native plant other than some species of fungus could have been responsible for the results described. Subsequent observation revealed the fact that golden-rods were abundant in the pasture and that these were thickly infested with parasitic fungi. It was further observed that these were eaten by the horses, and it is my recollection that Dr. Helmer stated that the affected animals exhibited a morbid appetite for the plant, not observed in those which were healthy.

The specimens were submitted to Prof. Byron D. Halsted for determination, and he reported the principal fungus to be *Coleosporium solidaginus*, Thum. Many of the sori of this were in turn infested with a second species, *Darluca filum*, Cast. Neither Prof. Halsted nor other mycologists to whom I submitted the query were aware of any poisonous record having been made by either of these fungi. Nevertheless, in view of the full report furnished by Dr. Helmer, and of the very thorough manner in which he had investigated the subject, I had no hesitation in pronouncing one or both of them to have been the probable poisoning agent.

Dr. Helmer subsequently performed some experiments upon rabbits and dogs, injecting subcutaneously an infusion of the Coleosporium, as well as he could separate it from the tissues of the host-plants. The results were distinctly poisonous, and fatal in all cases wherein rabbits were the subjects. The symptoms presented points of similarity to those observed in the poisoned horses. As these experiments were not carried out under the customary precautions and control conditions of the physiological laboratory, I could not fully endorse any conclusions deduced from the results. Nevertheless they were of great interest, and it is to be hoped that Dr. Helmer will yet publish them.

The conclusions reached from these cases were not regarded as sufficiently positive to warrant publication, but in view of the fact that since then various independent observers throughout the country have come to the conclusion that the cases of poisoning observed by them have been caused by golden-rods, the belief appears justified that they are either directly or indirectly poisonous. There is no evidence whatever that they are so directly, that is without reference to the parasites which they may bear. Of the seventy-five or more species in this country only one, *S. odora*, has been recognized as possessing physiological properties, and these only of a mildly stimulating character, due to its volatile oil, which has been administered in doses of 5 to 15 minims. As it is present in the ratio of only about one per cent. it would require a large amount of the plant to constitute an excessive dose. The plant was moreover extensively used by the aborigines for preparing a pleasant beverage, owing to its anise-like flavor. As it is a plant of the forest, or other shaded locations, it could not have been the active agent in the sunny pastures where these cases of poisoning have occurred. Finally, it is to be noted that the symptoms are not the result of over-stimulation, as would result from an excessive dose of a volatile oil, but those of a progressive blunting of the intellectual and spinal centres and a gradual decline of the vital powers. There is a decreased supply of blood in the extremities. In short, the effects are far more like those of ergot poisoning than of any volatile oil. While it is of course not absolutely impossible that poisonous properties reside in some of the members of the genus, it is in the highest degree improbable, and we are forced to the conclusion that it is not in the plant itself, but in its parasites that they are to be sought.

It is desirable that those who have found golden-rods to cause trouble in their pastures should hereafter observe these plants closely and ascertain whether they are in all such cases infested with other fungi. It is not difficult to detect. It appears upon the surface in the form of bright yellow or orange-colored spots of irregular form and size, often causing the leaves to become stunted, deformed and curled up. Later, if the *Darluca* develops upon them, these spots will show deep purple or blackish discolorations.

PARTURIENT APOPLEXY.

By W. Chas. Covey, D.V.S., Hudsonville, Mich.

In this article I shall not presume to add knowledge to the profession regarding the various types and variety of symptoms presented by this most fatal malady of the milch cow. Its history is contemporaneous with the most remote history of diseases of cattle. There can be no question that plethora is a necessary condition. I find it as frequently in cattle fed on dry clover as in those running upon rich clover pasture lands; but I have yet to meet my first case fed on corn fodder ensilage. Microscopic investigation has led me to maintain that there is invariably an extreme richness and density of the blood. I have often found the blood globules reduced to less than one-half their normal size. I have found fully as many cases of the disease when the temperature of the atmosphere was *below* 60 degrees as I have when it was higher. Perhaps the cases were of a more aggravated form during excessive hot weather. Constipation is always present. In one post mortem I found excessive emphysema, which, however, I believe existed prior to this sickness, but assuredly hindered recovery on account of imperfect oxydation of the air breathed. Now, I feel assured in placing emphasis upon the use of antii. et potassa. tart. (*tartar emetic*) in this disease. If to any one remedy more than another I owe my success in treating this disease it is tartar emetic. I think that after as careful a trial as I have made, even the most critical of my brother practitioners will excuse my enthusiasm in this matter. For such success to crown my efforts, after years of almost signal failure, is a matter that, to me, is extremely gratifying, especially when I see others having such poor success. It is true that I got my first ideas of this treatment from Harms, but I cannot agree with him in the amount to be given. I never give less than one ounce, and repeat until there is marked evidence of nausea, which is a guarantee of glandular activity. If the case is so far gone that it is impossible to excite glandular action then the medicine can do no harm. As soon as nausea is manifested the drug should be discontinued and tonics given. A cathartic should always be given, also hypodermic injections of pilocarpine muriate. Strych. nitrate and aconitine crystals are very valuable adjuncts as indicated. And I feel that I cannot emphasize too strongly the benefits of the cold water rugs, well protected by warm blankets, especially in the more torpid types. Bleeding in this disease has usually been conducive of harm in my practice. I have found ounce doses of chlorate of potash every eight hours valuable for oxydizing the blood. In prolonged paraplegia I find friction, counter-irritation and electricity of importance; but this complication is one seldom met. Saline or soapy enemas of warm water assist greatly; also keep the head somewhat elevated with straw. I have found Knowles' eserine compound of value to create peristaltic action. It is *imperative that the bladder should be emptied every six or eight hours;* also the milk drawn off many times a day. Of the 34 cases that I have kept a record of, I have lost but nine. Four of these I feel sure I could have saved if I could have seen them sooner. Of the cases lost 6, or $66\frac{2}{3}$ per cent., were of the ultra congestive type. Of the 25 saved but five, or 20 per cent., were of that form of the disease. In no case herein mentioned was it more than 22 hours from calving before the animal went down.

CASE No. 1.—Large, red cow, eight years old, very fat. Three hours after calving noticed by the owner to "hang back in her stall and stagger." Went down about one hour and a half later. I was called about four hours after she went down. Found her in a semi-comatose condition; temperature, 104.4°; respiration stertorous, but no great heat about the head. Gave the following drench:

Sodii sulph., ℥xxxij; fl. ex. zingiberis, ℥i; antii. et potass. tart., ℥iss; aqua, q.s.

Gave also hypodermic injection of strych. sulph., gr. i; pilocarpine muriate, grs. iii; aconitine crystals, gr. $\frac{1}{4}$. Covered the body with rugs wrung out of ice water, protected by dry blankets. Left the following to be given in three hours: Antii. et potass. tart., potassa chlorate, a.a. ℥i; fl. ex. pilocarpus, ℥ss.

Four hours after this was given I again saw the cow. Temperature, 104.1° ; there was no peristaltic murmur ; complete coma ; breathing stertorous. The medicine I had left had not been given on account of inability to swallow. I gave it through a rubber hose, and followed with the hypodermic dose : Strych. nitrate, eserine salicylate, a.a. gr. i.

Emptied the bladder, cow unable to contract bladder or sphincter. Left with instructions to keep up the ice-water packs, but prognosed unfavorable results. Saw her five hours later ; slight peristalsis. Voluntary contractions of sphincter of urethra. Temperature, 102.8°. Still insensible to pain ; eyes glassy, pupils dilated. Gave through a hose the following : Antii. et potass. tart., ℥ i ; fl. ex. ipecac, gtts.x.

Hypodermically the following : Eserine salicylate, strych. nit., a.a. gr. i. Left with instructions to renew the cold water covering. Called eight hours later, found the cow up and eating. Left tonics ; recovery complete.

CASE NO. 2.—March 26th. Called at 2.30 P.M. to see a fine, large grade Jersey—six years old—fat enough for beef. Had her calf just at dark the 24th. Had been down nine hours when I saw her first. Eyes fiery red, pupils dilated ; head in constant motion ; temp. per rectum 105,8°. Impossible to count the pulse ; drew six quarts of blood from the jugular. Gave cathartic as in No. 1, and ammonia carbonate for tympanites. Hypodermic injection as follows :

Strych. sulph., gr. i ; pilocarpine, grs. ij ; aconitine chryst., gr. ¼. Drew off urine ; no peristaltic action of the bowels. Applied ice to the head.

In two hours I gave the following : Antii. et potassa. tart., potassa chlorate, a.a. ℥ i ; fl. ex. pilocarpus, ℥ iss. Left instructions to repeat dose every six hours.

March 27th, 8.35 A.M. Temperature 101.3° ; congestion in head nearly gone. Still struggled some to rise ; bowels moved off hard fæces, slimy and thickly covered with blood ; pulse, 56. Stretched out her neck and tried to vomit. Skin damp with perspiration. Gave the following, with instructions to repeat every six hours :

Potass. nit., ℥ ss ; pulvis nux vomica, ʒ ij. I did not see her again; the owner told me she got up at 3.45 that afternoon.

CASE NO. 3.—April 3d. Nearly like No. 1, save the duration of sickness. Large grade Durham, ten years old. Well kept on rich clover hay and corn meal. Pursued the same treatment as in Case 1, save that I gave larger doses of eserine. Gave five ounce doses of potassa chlorate eight hours apart. She got up April 7th, and recovered.

CASE NO. 4.—May 16th. Same as No. 1, except that the temperature did not rise higher than 103.6.° Same treatment pursued. Roused from her stupor 17 hours after treatment began. Recovered.

CASE NO. 5.—Common native stock; very fat. Had been down 22 hours when I was called. Gave unfavorable prognosis. She no longer rested on her breast bone, but was stretched out full length upon her side; complete insensibility. Did not administer cathartic as before. Gave hypodermic injection: Pilocarpine, grs. ij; strych. nit., gr.i; digitaline, gr. $\frac{1}{20}$. Drugs did not react. Cow died three hours later.

CASE NO. 6.—Aug. 12th. I consider this a very remarkable case. A fine grade Jersey, 12 years old. Dropped within twenty minutes of calving. I was called twelve hours later and found her stretched out upon her side. Temperature 104.8°; pulse imperceptible; breathing stertorous. Absolutely no peristaltic murmur; no contractions in bladder. Prognosis fatal. Tried the following as an experiment: Antii. et potass. tart., ʒ ij; pilocarpine sulph., grs. ij; strych. nit., gr. i. *This I gave hypodermically.* Placed straw under her head to raise it above the body. Put on ice-water rugs, covered with two warm blankets. Returned in four hours, expecting to find her dead. Found very little change; slight peristalsis; pulse little stronger, temperature, 104.4°. Gave same as above with the addition of one-fourth grain of aconitine.

Six hours later found her conscious of her surroundings. Resting on her breast bone with feet underneath; would notice her calf. Gave her two pounds of magnesia sulph.

Six hours later her temperature was normal. Bowels moved after injections of salt and water. Would eat some, but could not rise. Gave quinine sulph., ʒ ij; fl. ex. nux vomica, ʒ i; to be repeated every four hours.

Fifteen hours later, owner reported her still unable to stand. Gave her strong currant of electricity along the spine. Left instructions to repeat in twelve hours. Cow recovered, but I had to contend with a *large ulcer at the point where the needle was inserted.*

CASE NO. 7.—Nearly the same as No. 5. Died in four hours after I first saw her. No chance for an autopsy.

CASE NO. 8.—Aug. 17th. This is the most remarkable case I ever have seen. This is a Jersey cow, very large and sleek, nine years old; a great pet and favorite of the family. She was turned into the pasture late on the morning of June 6th, apparently all right. Mr. Dearborn, the owner, had occasion to visit the pasture about noon, and found that she was not right. He drove her home with difficulty, on account of great weakness behind. I was away at the time, and a neighboring dairyman was called in consultation. He told Mr. D. that everything was all right, or would be, as soon as she dropped her calf. I was called about 7.30 that evening and found her comatose, but still lying on her breast bone, with head in flank. Breathing loudly stertorous; temperature, 108.2°. This was a much higher temperature than I had ever before met in this disease, and I must admit that I was quite alarmed for the cow's prospect. Examination found the bladder fearfully distended, and a dead malformed calf. I lost no time in removing the calf and placenta. The cow gave no aid in expelling the calf. Poured through a hose the following: Magnesia sulph., two pounds; antii. et potass. tart., ʒ iss; potassa chlorate, ʒ i; fl. ex. zingiberis, ʒ ss.

Gave hypodermically: Strych. nit., gr. i; aconitine crystals, gr. $\frac{1}{4}$; pilocarpine mur., gr. jv.

Took temperature one hour later and was much surprised to find only 104.8°. Gave enemas of soap and water; often changed hot water rugs over the loins. Returned at midnight and found no improvement in the condition. Nose plunged into the dust in front, and breathing the loudest I ever heard; temperature, 105.2°. Repeated the above hypodermic dose.

Saw her again in the morning; no change save slight peristalsis. The arm returned from exploring the rectum was covered with bad-smelling blood. Ordered the enemas kept up every hour with acidum carbolicum added. Hot packs to be kept up.

Was called out of the county, and upon returning at 10 P.M. was surprised to find her up and eating. All functions nearly normal; recovered.

CASES 9, 10, 11, 12, 13 and 14 not materially different from some cited. No. 15 was like No. 5, except that there was a regurgitation in her throat when she breathed. Inquiry revealed that a quart of kerosene oil had been poured through the nostrils and much had passed into the lungs. Died before I left.

NO. 16.—Extreme torpid type. Had been down 22 hours. Died fifteen minutes after taking cathartic. I got the credit of killing her with my medicine.

NOS. 17, 18, 19, 20, 21 and 22, very much like No. 1. All made good recoveries.

NO. 23, very much like No. 2; treatment the same. Cow died three hours after the first dose of medicine. The other cases up to No. 34 were but a repetition of some already given.

NO. 34 was a large grade Holstein, eleven years old. She was the third cow I had treated for that man within two years, for the same disease; and *she had her calf in the same box stall that was occupied by the others.* I am not prepared to say, as yet, that, for lack of proper sanitary precautions, the germs of contagion were spread.

NOS. 6, 17 and 31 were the same cow. When sick as Nos. 6 and 17, the disease presented the torpid form; but the last time it was highly congestive and she died within three hours from the time she went down.

I am attending, at this writing, the only case I have ever had where the cow was ill-fed. I am not altogether positive, as yet, of my diagnosis; I have seen the cow but once and fear complications.

Now I consider *any evidence of glandular activity* as a favorable symptom. Keep up peristaltic action, if possible. *Frequently empty the bladder*; keep the udder emptied; get up as much activity as possible in the skin. Use *tartar emetic*, *pilocarpine*, *strychnine*, enemas and ice-water packs. And never give up the patient until she is well or dead.

If this treatment shall prove as highly satisfactory to my brother practitioners as it has to me, I shall have accomplished the object of this rambling but true statement of facts.

P.S.—No. 35 just died. Autopsy revealed abscess on the brain.

HÆMORRHAGIC ENTERITIS.

By W. L. West, V.S., Ellsworth, Me.

Read before the Maine Veterinary Medical Association.

I desire to call your attention to the above disease, not because I know more about it than anybody else, but because I know less about it than I wish to; consequently I hope this paper will call forth a spirited and edifying discussion.

In my estimation, hæmorrhagic enteritis is the cause of more sudden deaths in horses than all other causes combined, and the practitioner has less opportunity to prescribe intelligently from the fact that the owner usually diagnoses the case as the proverbial "stoppage of the water," and proceeds to dose the animal with nitre, aconite, saleratus, molasses, Johnson's liniment, Dr. Quack's fever drops, and any or all nostrums suggested by the neighbor who had a horse just like this, and cured him with a pint of spirits of turpentine, or some other equally absurd and heroic treatment. I have always taken a great interest in stomach and bowel diseases, and have made post mortems in every instance where such a proceeding has been possible, and I have invariably found one condition following the train of symptoms which I shall narrate. The disease in question is one which gravely concerns us as veterinary surgeons, and one which has received far less notice from classical writers than many others of infinitely less importance. This lesion has received many names, such as enteralgia, cutting colic, enterrhagica, red colic, etc.

History: In 1829 Rigot first noticed this condition; after him, Schutz, Bouley, Cornevin and others alluded to it, but it remained for Bollinger, in 1870, to describe a typical case.

Etiology and Anatomy.—The causes are many and varied. I shall concern myself with but one at present, and that, in my estimation, is a very fruitful one. I refer to parasitic aneurism of the anterior mesenteric artery, which occurs in seventy-five per cent. of all horses, and, in many sections, more than that. Roll and Bollinger gave ninety to ninety-four per cent, while Ellenberger, in eighty-five post mortems, found eighty-four horses with aneurisms. Now, as you all will remember, the anterior mesenteric is given off from the aorta at nearly a right angle, two and one half inches posterior to the cœliac axis, and supplies the larger part of the intestinal mass with blood; it is divided into three fasciculi (left, right and anterior); the left fasciculus has about twenty branches, the first few of which go to the duodenum and anastomose with the duodenal artery, a branch of the cœliac axis. The more posterior branches are longer, and anastomose with the ilio-cœcal, a branch from the right fasciculus. The right fasciculus furnishes the ilio-cœcal, two cœcal and the right colic. The ilio-cœcal, I have already stated, anastomoses with branches from the left fasciculus. The cœcal arteries anastomose with each other. The right colic runs from the origin of the colon to its pelvic flexure, there inosculating with the left colic. The anterior fasciculus has only two arteries of importance, left colic and the first, or small, artery of the floating colon. The left colic runs along the colon from its termination to the pelvic flexure in an inverse direction to the passage of the food, and there inosculates with the right colic. These arteries send loops or transverse branches to each other along their whole course. The first artery of the floating colon anastomoses with a branch of the posterior mesenteric. The profusion of anastomoses of these arteries, you see, provides for compression or even obstruction, if not too sudden in occurrence, or too great in extent, as the blood can readily pass from the cœliac axis *via* the duodenal branch into the left fasciculus, thence to the ilio-cœcal, thence to the left colic, thence to the right colic, and to the artery of the floating colon; and if we go back to the broncho-œsophageal we have it communicating with the gastric, so that we have nearly a complete collateral circulation posterior to the broncho-œsophageal.

Now, my idea is that we start with parasitic aneurism of the anterior mesenteric, with a thrombus and endoarteritis; with induration of the tunica intima and media, any sudden-acceleration of speed or volume of the blood stream, regardless of its causes, may break off a portion of the thrombus and sweep it along until it completely occludes some smaller vessel. The anæmic condition of the territory formerly supplied by the now obstructed vessel causes paralysis of the intestine, stasis and, possibly, a reflux of venous blood and chapedsis into the coats of the bowel and very frequently a flow into the lumen of the bowel, the paralysis of a portion of the bowel, without a consequent paralysis of the remainder, frequently leads to volvulus or invagination. The contents of the bowel rapidly undergo fermentation with the liberation of noxious gases and the formation of ptomaines, the absorption of which quickly poisons the nerve centers, causing coma and death, or death may occur from pressure exerted upon the diaphragm causing asphyxia, or again, rupture of the intestine may and frequently does occur. I think also death may occur from cardiac syncope from excess of foreign gases in the blood.

Symptoms.—Horse refuses to eat, has great thirst, pulse 60 to 100, full and strong, but not wiry nor thrilling at first, but may be so in secondary stage; constant pain, dull at first, later of lancinating character; lies down often, and very carefully; hippocratic countenance; sweats profusely; may sit on his haunches, or walk in a circle; abdomen usually slightly tympanitic; pupils dilated; pressure on abdomen causes severe pain—this, of course, is not seen if gangrene has taken place; temperature, 102 to 106°; respiration, 40 to 80, labored and noisy.

Treatment.—Quiet, an immediate hypodermic injection of morphine, gr. iij, atropine, gr. ½, with aseptic precautions. Warmth to surface of abdomen, moist if conditions favorable, dry if adverse; if pain abates give Brown's chlorodyne ʒj, every hour, and, if necessary, every fifteen minutes, until physiological rest is assured. This is one of the best remedies I have ever used, and I have the formula, if any of you desire it, which is as follows:

℞ Morph., HCl., gr. viii; acidum, HCl., dil. ʒss; chloroform, ʒjss; cannabis indica tinct., ʒj; alcohol, ℥ss; ol. pip. menth., mij; capsicum ol. res., mj. Misce.

Friedberger and Fröhner give tartar emetic, calomel or alkalies. While I do not wish to carp at what I consider high authority, I must beg leave to differ diametrically from this line of treatment. Warm oatmeal gruel may be given sparingly, but I prefer rectal feeding if the case requires it, with milk, eggs or beef extract. The prime object in view is rest, maintenance of a *status quo* until resorption and collateral circulation is established. While any statement of cures can always be met with the saying that recovery would have taken place anyway, or that the case was one of mistaken diagnosis, I fully believe I have seen five cases of genuine hæmorrhagic enteritis cured by the above treatment, and I hope you will all try it and let me know what your experience is in regard to it.

Post Mortem Changes.—The stomach is thickened and the mucous membrane congested; usually the stomach contains some partly digested food. Some of our text-books claim the mucous membrane has many blood clots, but I have never found any. The duodenum, jejunum or ilium, or a portion of each, is filled with a hæmorrhagic exudate; the walls are infiltrated, indurated and discolored over the portion covered by the infarct, and if the case was one of the lingering variety, we may find necrosis, gangrene or rupture. If we examine carefully, we shall invariably find an embolism plugging the artery of supply of the infarcted region, and following on toward the aorta, we shall find a verminous aneurism of some of the large arterial trunks.

Trusting that you will pardon me for monopolizing so much time, and thanking you kindly for your earnest attention, I will now stop to hear the discussion.

SOME VETERINARY OPHTHALMOLOGY.

By George G. Van Mater, M.D., D.V.S., Lecturer on Ophthalmology to the American Veterinary College.

In Act III. of "Romeo and Juliet" we find, "Men's eyes were made to look, and let them gaze," and having been requested to present some ophthalmological points in a veterinary light, I thought the above quotation pat, and so prefaced this paper with it. The eyes themselves do not see. Shakespeare again, in "Julius Cæsar," says: "The eye sees not itself, but by reflection, by some other things." Through the medium of an eye external impressions are focused upon the retina, which retina is an expansion of the optic nerve. Said optic nerve (the second pair) transmits the message to the perceptive organism, and thus we see. Thus, as in many another instance, we see the Queen's English misrepresenting facts, for when we say, the eye "sees," we are in error, for the eye does *not* see.

There has been much and weighty discussion on the origin of the optic nerve. We will briefly say that this nerve is continued externally with the side of the thalamus opticus, forming the corpora geniculata. By some the thalamus opticus is believed to be the true origin. Others, that as the external corpora geniculata is in contact with the natis, and the testis in contact with the internal corpora geniculata by a band of white fibres, therefore the corpora quadrigemina furnishes the source of origin. In mammals the ocular apparatus takes similar form to the human, with the exception that in some cases it may be elongated somewhat. In mammals the eyes are obliquely set. Only in man, apes and some night birds are the eyes so set as to permit visual lines directly ahead in parallels. The eye of the horse measures transversely 1.417 inches and vertically 1.575 inches. The eyeball, or bulbus, is protected anteriorly by two movable folds—the lids—superior and inferior, having an inner and outer angle, which angles are called the internal and external canthus. On the edge of each lid, very near the internal canthus, is a small elevation containing a minute orifice—the punctum, and this punctum in turn leads to a small canal—the function of which is to carry away the tears, of which more hereafter. The lids are subject to diseases which are apt to mislead the superficial observer, and lead him to treat a comparatively simple matter as a deeper one. Take the condition of inflammation of the margins of the lids, with formation of crusts, and you will always have the crusts present. These crusts form hard borders and in place of a pliable, velvety lid, we have a stiff, irritating edge, rubbing over the ocular conjunctiva, with resulting inflammation, lachrymation, photophobia and nearly all the symptoms of a beginning conjunctivitis. Now do not treat this as such a condition, with atropia solutions, argent nit. solution, etc., when a simple but *thorough* cleansing of the edges of the lids, with the application of vaseline following, will produce a cure. And this removing of crusts is not always the simplest matter you may attempt, unless you are awake to the fact of the very satisfactory results obtained from using $H_2 O_2$, with a small cotton mop, which mop *burn* subsequently. In conjunctivitis (cold in the eye) the " white of the eye," which is the sclerotic coat seen between the lids (the palpebral fissure), will be covered by coarse, angry-looking blood vessels pursuing tortuous courses, looking, to use a homely expression, like the criss-crossing of wild grapevines, minus the leaves and fruit. These vessels lie in the conjunctiva, and the conjunctiva being movable over the sclerotic, why the vessels will be also movable. This may be demonstrated by pushing the lower lid up and down, when the conjunctiva and vessels *in it* will move synchronously. This is *the* differential diagnostic point between conjunctivitis and inflammations of deeper structures, such as the cornea, ciliary body and iris. Take, for instance, inflammation of the iris (iritis). The redness would appear as (all the principal symptoms of conjunctivitis being also present, such as pain, photophobia and lachrymation) the rays surrounding the sun. No irregularity, as in conjunctivitis, but clean cut, as though engraved, starting from the edge of the cornea, and *are not mov-*

able on moving the lid, as in conjunctivitis. It is well to bear in mind that to make a careful examination it is necessary in many cases to instill three or four times a 4 per cent. solution of cocaine, as the photophobia is often so intense as to make it next to impossible to properly examine an eye and diagnose the condition. It is always a good thing to preface all other treatment in conjunctivitis with the instillation of a one per cent. solution of atropine, while in iritis it is *imperative.* Remember always in iritis other methods may be neglected, but atropine first, last and all the time—make other treatment accessory to this. Also bear in mind the fact of there being a rheumatic iritis which will prove stubborn and rebellious until you cure the constitutional trouble, and then you may easily clear up the eye trouble. Both in conjunctivitis and iritis the dark stall is a good thing. Boric acid, saturated solution, *ter in die*, in one drop doses dropped in the conjunctival sac, is excellent in conjunctivitis, and this may, of course, be alternated with the atropine solution. The constitutional symptoms will be treated as they may present themselves as in any case. Accompanying these conditions, and again alone, the punctum (which we spoke of in the first part of this paper) may participate—become closed—causing an overflow of tears (epiphora). While this seems a simple affair, it may be fraught with dire results; the tears becoming acrid and removing the hair from the cheek, and even going on to a very high degree of inflammation of the skin. The thing to do here is to re-establish the natural opening with a small probe, avoiding cutting, as you would destroy the sphincter in the punctum, to which it owes its sucker-like action which enables it to collect the tears. As before mentioned, these puncta are continued by the lachrymal ducts, which are very narrow, and carry the tears to the lachrymal sac; this sac is continued by the lachrymal canal, or nasal duct, which opens into the nostril between the two turbinated bones, the remainder of the canal being beneath the nasal mucous membrane on the *inner* surface of the *outer* wing of the nostril; it terminates by an orifice (sometimes two) which appear as if punched out. In the horse this canal opens on the cutaneous surface at the entrance of the nostrils. According to Lecoq, we find in the ass and mule the opening of the lachrymal canal is at the inner surface of the outer wing, and not near the inferior commissure as in the horse.

REPORT ON SOUTHERN CATTLE FEVER.

By W. H. Harbaugh, V.S., Richmond, Va.

Read before the Virginia State Veterinary Medical Association, Richmond, Va., January 2, 1896.

During the past season I was unable to spare the time necessary to devote to any extended experiments in connection with this disease, but I did not entirely neglect the subject.

As you will, no doubt, remember, I did not question the discoveries of the Bureau in regard to the ticks causing the disease outside the permanently infected place, and further, I expressed full belief in Smith's protozool micro-organism.

For the purpose of being better qualified to study the disease and its phenomena, I confined my observations to the tick theory, and made as close a study of the ticks as possible under the circumstances.

I was peculiarly fortunate in this respect in having the assistance of Dr. Cooper Curtice, to whose studies we are indebted for a detailed life-history of the cattle tick, the *boophilus bovis*, which is, so far as known at present, the only carrier of of the cause of Texas fever.

After being able to distinguish the *boophilus bovis* from the other varieties of ticks, I made collections of them which I sent to different veterinarians outside the territory where the tick naturally exists.

The arrangement with these veterinarians was to place the young ticks hatched from the eggs of the adult ticks I sent them on a susceptible cow and report the result. Or, in other words, to repeat the experiments of the Bureau in detail.

Prof. E. P. Niles was the only veterinarian who took the trouble to carry out the experiments as agreed upon. For one reason or another the other ticks sent out were not used.

The ticks I sent Prof. Niles were taken from cattle on a place where there has not been a case of the disease for at least seventeen years; but there have been no susceptible cattle added to the herd since then, the herd being kept up by breeding the cattle raised on the place. This course was found necessary by the owner. Before he commenced to breed all his own cattle he lost every animal introduced among his herd; about twenty cattle were sacrificed in his endeavors to add fresh blood to his herd.

Following is Prof. Niles' report of the experiments:

"Subject: A short-horn cow about 10 years old.

Oct. 10, infected with a large number of young ticks.
" 11, " " ticks. Temperature, 2 P. M., 101.2° F.
" 12, " 9 A. M., 100°
" 14, infected with ticks. " 2 P. M., 100.8°
" 15, " " " " 3 " 101.2°
" 16, " " " " 3 " 100.8°
" 17, " 5 " 100.8° [blood.
" 19, infected with ticks " 5.30 " 101.6° one pair parasites in
" 20, no more ticks placed on cow. Temp. 5.30 " 101.2°
" 21, " 3 " 101° [in blood.
" 23, " 3 " 101° number of parasites
" 25, " 2 " 103.4° no record of parasites.
" 26, intense diarrhœa. " 9 A. M., 105.7° 9 P. M., 107.4° only one pair parasites seen in blood as mount was not properly prepared.
" 27, temperature, 10 A. M., 106.2°, 6 P. M., 106.6°. Few parasites seen in blood; mount not good. Profuse diarrhœa; fæces covered with bile.
" 28, temperature, 9 A. M., 105.2°, 5 P. M., 106.4°. Number of parasites in blood; diarrhœa continues.
" 29, temperature, 12 M., 104.2°, 5.30 P. M., 104°. Great number of parasites in blood; bowels torpid.
" 30, temperature, 8.30 A. M., 101.2°, 1.30 P. M., 99.2°. Great number of parasites in blood; bowels torpid.

"Cow killed on evening of 30th in dying condition. Post-mortem examination disclosed: Spleen greatly enlarged, broken down and apparently like a mass of clotted blood when cut into. A number of petechial spots in the left ventricle of the heart. Kidneys enlarged and very dark in color. Gall bladder greatly distended with bile as described on p. 31, Bureau of Animal Industry Report on Texas Fever. Bladder filled with very dark urine; do not know that urine was dark before death, but have every reason to suppose it was, as did not have opportunity to observe except in early stage."

At the time of the experiment, Prof. Niles sent me a specimen of the blood of the affected cow, which is now under the microscope for your inspection. It is a remarkably fine demonstration of Smith's micro-parasite.

Thus it will be seen that Prof. Niles' experiment confirms in every respect the work done by the Bureau. The work of the Bureau was followed in making this experiment, and, of course, nothing original is claimed for it. But it should remove from our minds any doubt as to the part played by the tick in at least being a carrier of the cause of the disease; and it may be the only carrier to places outside of the permanently infected sections, but I am still of opinion that there are other sources of infection within the permanently infected regions.

In the paper I read before this Association one year ago, I called your attention to the fact that all Southern ticks were not dangerous. There are different varieties of ticks that infest animals on pasture in the South, but the species called by Dr. Curtice the *boophilus bovis* is the only one which is known to inoculate cattle with the micro-parasite of Texas fever. All other varieties are at present considered harmless. I have preserved different species for your inspection.

I must also remind you that on certain farms the *boophilus bovis* ticks do not appear to be capable of conveying the disease to susceptible cattle. On two farms in particular, a short distance below this city, on which are kept between 400 and 500 cattle, and on which susceptible cattle from the North and elsewhere are constantly being added at all seasons of the year without any regard to their susceptibility, the *boophilus bovis* species is numerous, but so far as known there never has been a case of the disease since these places were under their present ownership.

The owner attaches no importance whatever to the ticks. He does not believe they have anything to do with the disease.

He has, however, his own ideas in regard to the disease and its prevention, and has perfect faith in a compound which he gives to the cattle as a preventive during the season of the year in which the disease may exist. This compound is a mixture of salt, copperas, sulphur and nitre. It certainly does not prevent the ticks infesting his places, as there are as many ticks on his cattle as are seen on any other average herd. Other farmers have used this same compound, but their cattle became affected with the disease and died, notwithstanding its use.

This compound is an ancient one in this section, and is, I believe, generally known as the old "Ruffin recipe." Next season I will test its efficacy on a suitable farm.

There can be no doubt as to the genuineness of the variety of the ticks which are on these places, as Dr. Curtice visited both farms and collected the ticks and sent them to Washington for experimental purposes, but I am sorry to say that he has informed me since that they failed to get a brood of young ticks from them. During the coming season I will make it my duty to collect ticks from such places to ascertain if their young will produce the disease elsewhere.

If it is established that ticks of the *boophilus bovis* species from such places cannot produce the disease, or, in other words, if it can be proven that on some places they are really harmless to susceptible cattle, such a fact will at least be a point in favor of the belief that the tick is an accidental carrier of the micro-parasite.

The fact that the disease is transmitted to susceptible cattle with the blood of infected animals is a point in the same direction.

Also, the fact that susceptible cattle may be infested with the ticks for several years in succession, and do not develop the disease till the second or third year, to some extent signifies that the tick is not at all times the carrier of the disease.

If the infectious principle of the tick was of the same nature as the venom of a serpent, we would not expect to find a micro-parasite as the necessary infecting principle, but as we must have the micro-parasite in order to establish the disease, it is evident that it is possible for the parasite to gain access to the blood of susceptible cattle by other means than either the tick or the transmission of affected blood which are, so far as known, the only authenticated ways the disease has been produced.

I have never heard it claimed that the tick originates the micro-parasite, but if we accept the proposition that the tick is the only cause of the disease it would amount to almost the same thing as a claim that the tick originated the parasite. Of course, it is possible, but scarcely probable, that the micro-parasite may be an organism peculiar to the tick, having to spend at least a part of its life within the tick in order to complete its round of existence. Such ideas are mere speculation, however, as next to nothing is known of the life-history of the micro-parasite.

One adult tick deposits an almost countless number of eggs from which as many young ticks are hatched, and as it is impossible for all of them to get on cattle a very large percentage must necessarily perish near where they were hatched and thereby liberate the parasites in large numbers. It is a question whether these parasites, on being taken into the susceptible cow with the food or water, can gain access to the blood and produce the disease. The gastric juice may guard against this source of infection, but still the question is by no means settled by the experiments of the Bureau in which they introduced the young ticks into the susceptible animals by way of the alimentary canal.

Of the greatest importance of all in connection with the study of this disease is a knowledge of the source of the protozool parasite. At present we know absolutely nothing in regard to it. It may be said that the tick gets the parasite from an animal gradually inoculated with it by being raised on a permanently infected place, but if so where does the cow get it originally? On the other hand, if the cow is made immune by the ticks where does the tick get the parasite originally? It is evident that the source of the parasite is the most important feature yet to be discovered.

Recording the effect on animals placed on tick-infested farms was one of the lines of investigation I pursued during the past season. Some animals developed the disease after a few weeks' exposure, and other susceptible animals showed no signs of sickness although well infested with ticks, while other animals that had been on the places one, two or three years, and escaped the disease in former years when cattle on the same pasture had died with it, developed the disease and died this year.

During the past season I met with cows affected with the disease on which I could discover no ticks, and upon inquiry the owners and attendants informed me that they had seen no ticks on any of their cattle. I have visited such places a month or six weeks afterwards and found ticks on all the cattle, susceptible and non-susceptible, but found no Texas fever.

Since I have had experience in hatching young ticks I will not say that a cow has no ticks on her; I can only say that after a diligent search I did not discover any; as the young ticks just hatched have the appearance of small specks of dirt, it is impossible to recognize them on a cow till they become large enough to be distinguished.

As the tick is the carrier of the cause from the places permanently infected, it must be admitted that the disease is one that may be invariably prevented in non-infected places if sufficient precautions are taken to free the cattle from ticks. Lice, mange and seat insects are destroyed on animals, and there is no reason why ticks cannot be kept off animals.

If the disease depended solely on the presence of ticks there would be no such thing as a permanently infected placc in this region. A severe winter may free a farm of all ticks.

During the early part of the fever season there were but few cases of the disease in Richmond, and it was noticed that ticks were hard to find, but during the latter part of the season the fever prevailed to a great extent, but the ticks were still noticed to be less than in former years. Last winter was an exceedingly severe one for this section, and hence the scarcity of ticks.

During next season, among other efforts to determine the question as to whether there are means of infection other than ticks, I intend to select a farm which has been notoriously permanently infested, and adopt every possible method to keep it free from ticks and then note the effect of introducing susceptible cattle.

As to the means to be used in destroying ticks I have made no practical experiments, but it is my intention to institute experiments with the beginning of the season.

Dr. Francis, Veterinarian of the Texas Agricultural Experimental Station, publishes in Bulletin No. 24 of that institution some very practical information in regard to the methods he follows to destroy ticks on cattle. He says: "A combination of lard and sulphur or lard and kerosene gives good results." The best results obtained by him followed the use of sheep dips. He used Cannon's, Hayward's, and Little's dips, two per cent. solutions (in water). On ranges where a great number of animals are to be freed from ticks he devised an unique apparatus which he describes and illuslustrates in Bulletin No. 24. Where the number of cattle is limited the dips are applied with sponges, mops, brushes, or syringes.

I infer from reading the Bulletin that their object in destroying ticks is not to prevent Texas fever, but in order to rid the cattle of a pest, which the tick is considered to be.

When we consider the general ignorance of every particular in regard to this disease, manifested by those directly interested, the heavy losses sustained by cattle owners is not at all surprising. Very few in this section realize that murrain and Texas fever mean the same disease. In view of all the information sent out by the U. S. Agricultural Department one would think that the public should be well posted on the subject, but such is not the case. Fully ninety-five per cent. of the valuable literature published by the Government is wasted because it does not reach the persons who would make proper use of it, or if it does reach a certain percentage of them it is in a shape that is incomprehensible to them, and, consequently, is not read or studied.

There can be no doubt that if the Government would issue a short treatise on the subject in popular language, free from technicalities, giving the common name of the disease in each locality and embracing the nature, characteristics, causes, so far as known, and the preventive measures, including the best means known of destroying ticks, more practical benefit would result than has followed the valuable work of the Bureau on this disease up to date. Such a publication should not be entrusted to Congressmen for distribution, but should be sent to postmasters and country merchants throughout the regions directly concerned for distribution to cattle owners.

During the coming year Prof. Niles and myself will be your committee on this disease, and as our work is now outlined and better understood, we hope to be able to present a report of some value to the members of the Association.

OSTEOPOROSIS.

By Dr. Geo. C. Faville, Norfolk, Va.

A Paper read before the Virginia State Veterinary Medical Association, at Richmond, January 2, 1896.

The term osteoporosis, it seems to me, is more or less a misnomer. Indicating as it does a porous condition of bone, fails to convey any accurate idea of the pathological condition found in this disease. There is upon the part of many writers a tendency to confound the disease which we commonly speak of as osteoporosis with other diseases, which may result in a porous condition of the bone. For instance, the mycelium threads of actinomycosis as they affect the maxillary bones of cattle, produce a condition which might quite readily and probably quite often is mistaken for osteoporosis, when the microscope would demonstrate at once the true nature of the disease.

I am well aware that I shall open a wide field for discussion by the position that I shall take; but discussion is what we want, and the aim of my paper is to form a groundwork for intelligent controversy.

I think that there has been a great deal of unnecessary hair-splitting in separating this diseased condition from those other similar, and to my mind, identical diseases, osteomalacia and rachitis. I am of the opinion that it would be much nearer accurate nomenclature, to use the term rachitis to cover all the other forms constituting the so-called diseases, osteoporosis, osteomalacia, rickets, etc. The most of the literature upon this subject we find in works upon human pathology, and this is unfortunate from the fact that the human subject does not offer the field for careful pathological study that is offered when the subjects are from some of the lower orders. A multiplicity of names tends to confuse, and it seems to me that the writings of most of our authors are confused by this very cause. I think that we are warranted in assuming that the rickets of the dog or pig, and the osteoporosis of the horse are nearly enough alike in their pathology and etiology to be *generically*, at least, classed together, under the term rachitis. Prof. W. L. Williams, in a discussion of this subject, in a paper read by him before the U. S. V. M. A., held in Washington, in September, 1891, discussed this subject in a masterly manner, and I can do no better than to commend his paper to your careful consideration.

Among the writers upon human medicine it seems to be pretty well agreed that rickets is a persistence of the soft condition of the bones of the young animal, owing to a failure in the process of calcification, while osteomalacia is more a condition of age, and results in a re-softening of the bones by a process of decalcification. Among the various descriptions of osteoporosis, we find one writer describing a condition which has been described by some one else under the term rickets, and another describes as the same disease those symptoms which by some one else are described as osteomalacia. We must have something else than age upon which to base a classification. The pathological conditions noted in this disease, do not, as it seems to me, give sufficient grounds upon which to differentiate. Bilroth, in his "Surgical Pathology," in writing of predisposing causes of fractures, writes of rickets, "which is due to deficient deposit of lime salts in the bone." Again of rachitis and osteomalacia, he emphasizes the point that rachitis is a disease peculiar to childhood, and from his description of rachitis and osteomalacia, leads one to think that his differentiation is based rather upon the age of the subject than upon the differences in pathological condition.

Williams, in his "Principles of Veterinary Surgery," classes osteoporosis as a non-inflammatory disease of bone. If he means by that a disease of bone with no symptoms of inflammation present, I do not think his classification will hold. His definition of inflammation is "a perverted nutrition of a living part, the effect of irritation or injury." Taking this definition as correct and comprehensive, the classification would perhaps hold, but it is certain that we find present in this disease those symptoms found where there is inflammation. Heat, generally with redness, pain and swelling are always met with. It would be more nearly correct to consider this disease inflammatory, the effect of a perverted nutrition.

The etiology of osteoporosis is a question of much dispute. There can be no doubt that some fault in the hygienic surroundings is the predisposing cause. Just what that fault is it is difficult to determine. We find the disease affecting young and aged animals. Horses and colts that are running on pasture with no apparent fault in the hygienic conditions, and again in stables supposed to have been constructed according to the most modern rules of sanitary science. It seems to me that there is often a constitutional diathesis, not necessarily hereditary, which predisposes to rachitic troubles. Many times without doubt, we must look to the unsanitary construction of stables for the predisposing cause, especially in those extensive outbreaks which appear at times in some portions of the country in an enzootic form. But from the fact that the disease appears in horses that are not stabled or worked, that run upon pasture or the open prairie of the West, particularly some portions of the Mississippi Valley, we cannot conclude that the unsanitary construction of stables is the only predisposing cause. I can do no better in discussing the symptomatology of this disease, than to describe the course of a case which recently came under my care, a bay filly, one year old, standard bred. I knew this colt during her whole life. She was kept upon the place where she was foaled until she died. The place where she was raised is a small dairy farm within the city limits. The drainage is exceptionally good, the farm being nearly surrounded by tide-water, and lying as a high knoll, above high water. There are seven or eight horses kept upon the place, and all are fed and watered from the same bins and wells. The stabling is comfortable. This filly, as is a full sister one year older, was always kept in an outside box-stall, with dry floor and windows opening directly outside. During the summer she was always out during day and night, when the weather was good, on good clover pasture, with grain feed twice a day. On the third day of last April, she was led to a blacksmith shop near my office to have her feet trimmed. She was a little restless, and would pull away from the blacksmith when he began to rasp the foot. Upon giving a sudden pull, she completely dislocated the left scapulo humeral joint.

I was standing near watching the blacksmith at his work, and knew that the pull she made was a slight one, he not attempting to hold her. I at once reduced the dislocation, and with surprising ease, and in about two weeks she was as well as ever.

About the last of May, my attention was called to this filly again. She had not been doing well, and while eating as well as the other stock was not thrifty. I found a slight glairy dlscharge from both nostrils. The bones of the whole facial region seemed to be thickened, and there was marked dypsnœa, evidently from the thickened turbinated bones. At this time there was no lameness.

In about a week, the discharge from the nose had increased and respiration had become more difficult and I found her decidedly lame in the right foreleg. The next day she was lame in both fore limbs. In two or three days she was lame in the hind legs, the difficulty in front having left her. The swelling of the facial bones kept increasing until respiration became fearfully painful. Her food could be but imperfectly masticated. The teeth seemed sore, although the gums showed no inflammation. About the middle of June she died, and I made a post mortem examination.

The only lesions I could find were in the osseous system.

The superior maxillary, nasal, and turbinated bones were greatly thickened. The periosteum was easily separated, and the whole bone was soft and spongy; I could readily press a small scalpel into the substance of the bone at any point. I made an attempt to clean them by boiling. I found them so soft I could keep them in no way except in alcohol. They seemed to have completely lost their osseous character.

I found the long bones at their extremities showing the same condition to a greater or less extent. This case in its symptoms and development was typical of the disease as I have seen it. I carefully studied the condition under which this colt was kept. The food was of the best, good hay and grass, with a daily run at pasture during good weather, and dry, well-ventilated stabling at night and during bad weather. Every attention was given her in the hopes of producing a speedy mare. I can account for this case in no way except by assuming that there was some fault with the process of assimilation. Evidently all the necessary elements for bone formation were present in the food. Other colts, the same age, kept under the same conditions and fed in the same way, are thrifty and developing nicely. The digestive functions seemed to be perfectly performed. There certainly, in this case, was not—in fact I have never known of a case where there was—anything to indicate a hereditary diathesis. Undoubtedly the material necessary for complete bone formation was present and in proper proportion for assimilation, but either are not assimilated, or, by some occult action after assimilation, are re-absorbed.

In order to get the various views of our members, I prepared a series of questions regarding this disease which I sent to each member. Several replied that they had never seen cases of this disease in their practice in this State.

The questions asked were as follows:

1st. To what extent have you observed osteoporosis in this State?

2d. What proportion of cases have been aged and what young animals?

3d. Were the animals stabled? If so, please give details as to ventilation, drainage, dampness, character of food and water. If on pasture, please state character of pasture, whether dry or marshy, and kind of grass and water.

4th. At what age have you generally seen the disease, and in your opinion what is the cause of the disease in the cases you have seen?

5th. What line of treatment do you find best?

6th. What percentage of recoveries?

7th. The uncertainty of our knowledge regarding this disease makes it more than interesting. Kindly send such information as you may have upon the peculiarities of its appearance in your locality.

Replying to these, Dr. Harbaugh says:

1st. Osteoporosis is met with in the range of my practice to a greater or less extent every year, but some seasons it appears in enzootic form, when the number of cases diagnosed increases the average to a great extent. I have only a limited knowledge of the disease elsewhere in the State, but from different persons I learn that it is by no means confined to this vicinity.

2d. According to my observations, the disease attacks old and young horses alike. In one stable where all the horses were over six years old, nine horses contracted the disease within a period of six months. In another stable, where all the animals were young, two two-year-olds and three three-year-olds were markedly diseased, and some, both older and younger, showed no symptoms whatever.

3d. In all my experience the affected animals were stabled. While it is true that some of the animals were turned out to graze or exercise during the day, and that the affected city horses were out in the air daily, at their accustomed work, still all were stabled at night.

In every instance the stable was more or less damp and lacked proper ventilation, drainage and light.

In no case could I justly find fault with food and water.

With the great majority of affected animals the food was the best that could be procured in the market, and being to a great extent what we know as Western food, it was practically the same food as fed to the thousands of non-affected animals. In the city the water is used from the hydrants, James River water, and is, according to numerous tests by competent chemists, a practically pure drinking water.

4th. I have met with the disease in animals ranging from yearlings to aged horses, but never saw a case in a mule, ass or hinny.

I am firmly convinced that the predisposing cause of the disease is undoubtedly the faulty construction of stables. The site of the stable and surroundings also have much to do with the cause. I mean to infer that the want of proper ventilation, drainage and sunlight in and about stables are the predisposing causes of osteoporosis.

I have never seen a case in a stable where the hygienic essentials received attention. That the many badly constructed stables, with little or no ventilation, do not produce the disease prove nothing; the predisposing cause is there, but the exciting cause is wanted.

As to the nature of the proximate cause, I am not at present prepared to express an opinion. In this age of microbes, one dare not say that such a disease is not due to specific micro-organisms; but I am confident that osteoporosis is not a contagious disease. All my observations point to the fact that the disease is never transmitted from one animal to another, and I am equally positive that the affected animal cannot infect a place where he is kept, either directly or indirectly.

5th. Treatment cannot possibly be satisfactory if the animal is kept in the stable where he contracted the disease. The first and essential thing to do is to remove the affected animal or animals to desirable quarters. As the conditions which predispose an animal to osteoporosis are such as produce rheumatism, I am not surprised to find rheumatism as a complication in a great majority of my cases, and hence this complication requires special attention. For the rheumatic complication, I obtain satisfactory results from the administration of either salol and phenacetine or salicylate of soda and acetanilid. When the rheumatic symptoms are relieved, I direct my attention to the deranged functions of nutrition and assimilation. The only medical agent I use for this purpose is the precipitated phosphate of lime. It is continued for as long a time as circumstances seem to necessitate. As to food, I always prefer a mixed diet; corn, oats and bran fed as a mixture will better assume essential nutriment than either fed separately. It is scarcely necessary to remark that all food should be of the best quality.

Turning affected animals on good pasture in proper season is of undoubted benefit, but they should also have daily allowances of grain.

7th. I have not kept a record of all my cases, but I am sure that over 75 per cent of those treated have made good recoveries. Of those in which the disease is recognized in an early stage, which is always possible in enzootics, all make good recoveries when you can have the supervision of the animal until recovery is assured. In such cases, even the bones of the head, which have become perceptibly enlarged, regain to a greater or less extent their normal condition. Of course I occasionally see a case beyond hope, but, as a rule, real bad cases can be very much improved, and often become serviceable work-horses when the unsightly enlarged facial bones unfit them for pleasure purposes.

The length of time required for even a partial restoration is the great drawback when expense is considered. This feature prevents many owners from putting their affected animals under treatment, when informed of the nature of the disease, especially when the affected animals are of little value.

Remarks.—I cannot agree with the eminent authorities who class osteoporosis as a non-inflammatory disease of the bone. The ordinary symptoms of inflammation are heat, pain, redness and swelling, and they are also the ordinary symptoms of osteoporosis.

The quantity and quality of the food and water have nothing to do with the cause of osteoporosis directly. Food may possibly become a factor, the result of conditions; but deficiency of lime salts in water or food does not produce the disease as I find it. The food may be perfect in every respect, but as the disease is one seriously affecting the functions of nutrition and assimilation, the lime salts which the food naturally contains are not properly appropriated. Either directly or indirectly the result of the inflammatory action going on in the bones, the lime salts they contain are converted into soluble salts and re-absorbed, leaving the affected bones in the condition we find them. I am aware that this is a variation of the acid theory, but, to my mind, it accounts for the characteristic phenomena.

I do not give phosphate of lime solely for the purpose of furnishing lime salt to the bones; I give it to correct the mal-nutrition of the bones, as well as all the fluids and tissues of the body, of which it is essentially a normal constituent. In all my experience osteoporosis is confined to the horse; I have never diagnosed a case in any other animal.

It is by no means a disease of the poor man's stable. The great majority of my cases were in stables where the animals had the benefit of all that money could procure in the form of first-class food. In one stable, which was a brick structure, the horses' stalls were in the rear, the stone-paved floor of which was from seven to fifteen feet below the grade of the alley. The brick wall against the earth was always wet, and, of course, the atmosphere in that part was moist. Nine horses in the stalls ranged along this brick wall developed the disease, but no case of the disease developed among the horses that stood in stalls on the opposite side of the stable, because the windows and doors on this side were exposed to the south, which assured plenty of sunlight, and as the outside was lower than the inside, there was surface drainage; and as this row of stalls was frequently exposed to a plentiful supply of outside air, ventilation occurred naturally to some extent.

When I was called to examine an affected horse, I expressed the opinion that the structure of the stable and want of proper hygienic conditions were the cause of the trouble. The owners took my advice, and converted the floor above into a stable, and since the horses have been kept up there no case of the disease has developed, and those among the affected which were treated recovered sufficiently to be able to do hard work for months past.

I have never been able to trace the disease to even a suspicion of a hereditary predisposition.

BONE SOFTENING.

By M. D. Hoge, Jr., M.D., Richmond, Va.

A Paper read before the Virginia State Veterinary Medical Association.

As the subjects osteoporosis and osteomalacia in animals are among the most obscure, and our society having entered upon their investigation, I have thought that a short review of kindred diseases, as observed in man, might from analogy give us some possible insight into the causes of these mysterious troubles.

Rachitis or rickets was first accurately described by an Englishman, Glisson, in 1650. It first made its appearance in England about the beginning of the seventeenth century, and even to this day it is called by the Germans die Englische krankheit, "the English disease."

The true and real cause is at present unknown, in spite of the great number of careful observations and painstaking investigations. It is, however, certain that its development is promoted by defective nourishment, unsanitary surroundings, as damp, crowded quarters in large cities, and in artificially fed children.

It has been found possible to produce the disease or certain similar changes in the bones of young animals by giving foods as free from lime as possible, and by the administration of large doses of lactic acid or small quantities of phosphorus. The changes this produced bear an analogy to rachitis or rather to bone formation, still the specific ætiological factor is wanting.

Some authorities contend that the disease bears some relation to syphilis; others that it is either a peculiar form of malacia or the results of the same. It generally appears in children from two to three years of age, among the wealthy as well as the poor, and sex has no influence on its occurrence.

Rachitis is a disturbance of the normal process connected with the growth of bone. It is not that they *become* soft, but they remain soft, i.e., not ossified. We know that all the bony structures of the fœtus, except the vault of the cranium, are mapped out in hyaline cartilage. Pathologically, we find the periosteum much reddened and congested. In tearing off the periosteum small pieces of the unossified tissue adhere to it.

In normal (long) bones, at the epiphyses the proliferative layer or hyperplastic zone is sharply and distinctly separated from the osseous layer or zone of calcification. In rachitic bone the sharp boundaries are replaced by an irregular serrated edge.

The proliferation of the cartilage cells has increased beyond all bounds, and the cartilage matrix has become fibrous. There is also an extremely active new growth of blood-vessels.

The periosteum shows changes also; the inner or osteoblastic layer is thickened and the newly formed bone does not become completely calcified, but remains soft and spongy.

Hence we have swelling of the epiphyses of the long bones and thickening of the flat bones, especially those of the skull. Normal dry bone contains about 63 per cent. of lime, rachitic bones have only 20 per cent. to 30 per cent.

Experimental proof on animals shows us that when the lime salts are withdrawn from the food of ewes, the lambs suffer from rachitis. In zoological gardens, young lions and leopards also have rachitis when the bones are first cut off from the fresh meats fed to them.

To state the views again as to the causes of rachitis, most authors maintain that it is a disturbance of nutrition in which the lime salts are deficient. Kassowitz seeks to explain the cause by a pathologically increased vascularization of the osteogenetic tissue, in which the blood-vessels are especially vulnerable by reason of deficient nutrition and toxic substances in the circulation.

In other cases, the lime salts are in abundance, but owing to a catarrhal condition of the intestines, they are not absorbed, hence do not reach the osseous tissue. According to Salkowski and Seeman, lime salts in *excess* have a similar effect, in that phosphate of lime combines with the chlorine of the blood, thereby producing a deficiency of chlorides. The result of this is a deficiency of hydrochloric acid in the stomach, and by this means the solubility and absorption of lime salts are made impossible.

We may still conceive that there exists, undiscovered as yet, in the blood a toxine which has the power of exciting in the bones the previously described methods of abnormal growth, osteomalacia.

As a rule osteomalacia, does not, like rachitis, consist of a disturbance in development of bone, but the bones having already undergone normal development and hardness, afterwards become soft. Its true ætiological factor has not yet been ascertained.

It is especially frequent along the Rhine, in Westphalia, Flanders and northern Italy. This might point to some local infection in these localities which is yet undiscovered.

Among the exciting causes, child-bearing is the most important, for the disease usually dates from pregnancy. Another factor which may be mentioned is unhygienic surroundings. The pathological process consists in a disappearance of the earthy salts of the bones, which begins usually from the medulla and extends outwards. The marrow is at first extremely hyperæmic and extravasations of blood are frequently found. The bony structure surrounding the haversian canals becomes converted into a soft, fibrous tissue; the central cavity grows larger and larger and the cortical substance becomes as thin as paper. At this stage, the hyperæmia disappears and the marrow acquires a yellow color which may be entirely transformed into a yellow viscid fluid. The bones can now be easily cut with a knife; they possess a low specific gravity. The periosteum is at first thickened and hyperæmic, and when it is removed the underlying surface of the bone is found rough and uneven.

Chemically there is a large deficiency of lime salts, and lactic acid is found in the bones. The general condition of the patient, except for intense pain, remains good for a long time; the appetite is good and the internal organs perform their functions in a normal manner.

The excretion of phosphates in the urine is increased; lactic acid has been found. Concretions of lime are met with in the bladder and kidneys.

ASPIRATION PNEUMONIA FOLLOWING ABSCESS OF STENO'S DUCT.

By John Greer, Jr.

A Paper read before the Montreal Veterinary Medical Association.

While pneumonia in the cow is a common result of the ingestion of foreign and infected particles of food and other material into the respiratory tract, yet the present instance may be of interest not only as illustrating an unusual origin for such a disease, but as pointing the important moral that early treatment is an essential feature in any specific morbid processes in the mouths of the lower animals.

It is a well-recognized fact that there exists normally in the mouth of the lower animals, pathogenic bacteria, which, under ordinary conditions, produce no evil effects whatever, so long as the animal retains a vigorous constitution; so soon, however, as any factors succeed in lowering that vitality, the greater is the liability for bacteria to invade the general system and become truly pathogenic for their host. Such, indeed, appears to have been the condition in the case herewith cited.

The subject was a three-year-old cow, in whom an abscess developed in Steno's duct; the infection doubtless arising through the mouth after the usual manner in which such ascending affections occur. The animal's first symptoms were: falling off in the milk, which persisted for four days, when closer examination of the body revealed a small swelling on the left cheek.

This rapidly sped downwards towards the nostril and soon infiltrated likewise the deeper tissues below the eye of that side. The lachrymal duct became obstructed, and the usual symptoms attending such a condition supervened. Further, there was considerable exophthalmous developed, the eye protruding from the socket to an abnormally great distance, and the conjunctiva was both injected and swollen. After several days the animal refused food, emaciated rapidly, while the swelling gradually increased in size. Hot fomentations were applied, with a stimulating liniment, though with little effect. This condition persisted for about three weeks; and, actimomycosis being suspected, some of the pus was removed and examined at the McGill Pathological Laboratory for the fungus, though only with negative result. The secretions of milk had almost ceased, though the condition of the animal remained about the same. At the end of about the third week, signs of fever developed, and were accompanied by chills, weakened pulse, and fœtid breath, depression and drowsiness, with diarrhœa. These symptoms progressively increased during the next three days, at the end of which time the animal died. This was nearly four weeks after the outset of the local symptoms.

The post mortem showed a large abscess in Steno's duct, containing about three ounces of yellow, creamy pus, and the surrounding tissues were softened and necrosed. Multiple abscesses were present in the lungs, and were surrounded by consolidated areas. Some of the abscesses were of long standing, in which the pus had dried up—in others the pus was fresher. In all cases the suppuration was connected with the bronchii, which in many places were dilated and thus produced bronchi-ectatic cavities. Here, then, we have a case of aspiration pneumonia, septic germs being drawn in by inspiration from the abscess in the mouth and setting up secondary abscesses in the lungs, and a consequent pneumonia.

There were no other signs of septic infection to account for the condition of the lungs, and the cause of death was therefore wholly due to this suppurative broncho-pneumonia produced in the way above mentioned.

The case, then, is of no little importance as showing the liability to grave pneumonia where an abscess in the mouth remains neglected.

The local conditions of the mouth if long untreated renders the system liable to disease by affecting the constitution; so, that a pneumonia can with much ease follow the aspiration of septic germs. I feel sure that had the case been subjected to operative procedure earlier, the chances for such infection would have been greatly diminished, and by a proper cleansing of the mouth after operation, the animal would have made a fair recovery.

In conclusion, I beg to thank Dr. Martin McGill, of McGill Pathological Laboratory, for the kindly interest he has taken in this disease.

PROFESSIONAL ETHICS.

By J. P. Lewis, D.V.S., Madison, Wis.

Read before the Wisconsin Society of Veterinary Graduates, Feb. 15.

Professional ethics, or the duties and rights of professional practitioners. I shall confine my remarks exclusively to the veterinary profession. I know that I can give you nothing new, but the discussion of such subjects brings us closer together, makes us know each other better, and gives us greater respect for each other's rights. I know that it is a difficult matter to draw the line where our individual rights leave off and the next man's begin. In fact, our brother practitioner generally thinks his rights begin before we consider ours to have ceased. Each of us has a certain amount of selfishness and self-esteem. As a result, we often over-estimate onrselves and under-estimate others. In our selfishness we think that all the rights belong to us, but generously feel that what we do not want the others may have. This selfishness leads to fault-finding and backbiting among ourselves, so that the public gets thoroughly disgusted with us and loses what little confidence it had in the profession.

Another injury is done the profession by one man's disputing the diagnosis of another, and speaking of his treatment in a sneering way. While, strictly speaking, we may not have said anything against him, by insinuating we have injured him more than we could possibly have done in any other way.

Some people we work for become dissatisfied with us if the animal treated is not well in a few days, and, considering neither the nature of the disease nor the time required for its cure, they change doctors. The second one called puts on a wise look, examines the animal, and finding out what the first doctor said the disease was, he gives it another name. For example, if the one said it was influenza, the other will say distemper. Thus he does all in his power to build himself up at the expense of the first doctor, whom he knew to be right. Even if the first man called had made a mistake, it had been more generous in the second to have refrained from pointing out his error. We all make mistakes, and the man who expects to build up a practice by pointing out the mistakes of others will soon find that he himself is not free from like faults. What is more, he harms himself and the profession he represents. He has no right to build himself up at another's expense, and at the same time cause the public to lose confidence, not only in him, but in his profession.

As to making uniform charges, this is very difficult to do, as in some localities you can charge more than in others. I am strictly opposed to cutting prices, and also to one man offering to do certain work for less than some one else has offered to do it. Heretofore, the local, legitimate and honest veterinarians have been handicapped by a class of traveling horse doctors, or dentists, as the case may be; but the people have learned by experience that it is safer not to patronize this class. They came into town, putting out big advertisements as to their ability and knowledge, and as a result they did a great deal of work that the local veterinarian should have had. and a great deal that should not have been done. For all this, they charge two or three prices. Their patrons soon found that they had been beaten, and blamed the whole profession.

There is another class of veterinarians who use the saloons for offices. Or if, perchance, they have offices of their own, they are favorite resorts for loafers and bums, who can always be found having a good time generally. Such as this is what causes the better class of people to form a poor opinion of both the profession and the men of that profession. One such veterinarian can do more harm than a half dozen upright men of the same profession can do good. The people are sure to hear more about such places than about the respectable offices, and they have the general opinion that all places of the same business are alike.

There is another class that harms the profession. Men of this class we call quacks. By that term I do not mean the man who has no diploma, but the man who is a graduate and depends entirely on his diploma as a guide-post to show people the great storehous of knowledge he possesses. He has not advanced one single step since he left college. In his treatment of diseases he uses only the formulas and mixtures that he learned at college. His brain is so completely filled with knowledge that it is unnecessary for him to read materia medica, or any of the late professional books or magazines. If any one dares to express a doubt as to his ability he is grossly insulted. This class of quacks is ten times worse than the most ignorant empiric, and is doing more to keep the profession from rising than all the non-graduates of the States. There is no standing still. The veterinarian either advances or goes backward. If he does not work, read and observe closely, he will soon find himself behind the times. It is a duty we owe to ourselves and to our profession to be students, to keep up with or ahead of the times, and to be gentlemen. There is no reason why the veterinarian should not be as much respected as the follower of any profession. To make ourselves and our profession recognized and respected, we must show the people that our knowledge is what it should be, and that we are students and by us working together we will advance step by step until the public see that we are standing between the diseases of our domestic animals and public health, and then we will be recognized.

VIRGINIA'S NEW VETERINARY LAW.

AN ACT

To regulate the practice of Veterinary Medicine and Surgery in the State of Virginia. Approved, Feb. 27, 1896.

1. Be it enacted by the General Assembly of Virginia, That from and after the first day of May, eighteen hundred and ninety-six, the following persons and no others shall be permitted to practice veterinary medicine or surgery in this state:

First. All persons who, prior to the first day of May, eighteen hundred and ninety-six, are practicing veterinary medicine or surgery in this State: provided, that before the first day of November, eighteen hundred and ninety-six, they shall apply in writing to the State board of veterinary examiners created by this act, and furnish satisfactory proof that they have been in practice in this State prior to the first day of May, eighteen hundred and ninety-six. The State board of veterinary examiners shall thereupon issue to such person a certificate, without fee, allowing them to continue in practice without having to undergo an examination as provided by section seven of this act.

Second. All persons who shall hereafter receive certificates from the State board of veterinary examiners of this State as provided by section seven of this act, and who shall also in all other respects have complied with the provisions of the same.

2. All persons who begin the practice of veterinary medicine or surgery in this State on or after the first day of May, eighteen hundred and ninety-six, and all persons who neglect to comply with the requirements of the first clause of section one of this act shall comply with the provisions of section seven before a certificate to practice shall be issued to them.

3. Any person shall be regarded as practicing veterinary medicine or surgery within the meaning of this act who shall profess publicly to be a veterinary surgeon and offer for practice as such, or who shall provide for sick domestic animals or for domestic animals needing medical or surgical aid, and shall charge and receive therefor money or other compensation, directly or indirectly. But nothing in this act shall apply to residents of this State who confine their practice to the castration and spaying of live stock, nor shall

it prevent any person from prescribing for live stock who does not claim to be a veterinarian or veterinary surgeon.

4. There shall be for this State a board of veterinary examiners, consisting of five members, whose term of office shall be four years, or until their successors are appointed and qualified. The term of office of the board first appointed after this act takes effect shall commence on the first day of May, eighteen hundred and ninety-six.

5. The said board shall consist of men learned in veterinary medicine and surgery, and shall be appointed by the Governor on or before the first day of May, eighteen hundred and ninety-six, and every fourth year thereafter, from a list of ten names to be recommended by the Virginia State Veterinary Medical Association every four years. Vacancies occurring in such board for unexpired terms shall be filled by the Governor by selection from the five names not appointed from the ten last recommended by the association. Such recommendation shall be by vote of a majority present at some meeting of the said association and shall be certified to the Governor by the president and secretary of said association, provided, if said association fail to make such recommendations prior to the time of appointment the Governor shall appoint such board, either in whole or in part, without regard to such recommendations. If any of said examiners shall cease to reside in the State, his office shall be deemed vacant.

6. The members of said board shall qualify by taking the usual oath of office before the county or corporation court of the county or corporation in which they respectively reside, or before the judge of such court in vacation. The officers of said board shall be a president, vice-president, and secretary (who shall also act as treasurer), said officers to be members of and selected by the board. Regular meetings of the board shall be held at such times and places as the board may prescribe, and special meetings may be held upon the call of the president and any two members, but there shall be no less than one regular meeting each year. Three members of the board shall constitute a quorum. The board may prescribe rules, regulations, and by-laws for its own proceedings and government, and for the examination by its members of candidates for the practice of veterinary medicine and surgery.

7. It shall be the duty of said board, at any of its meetings, to examine all persons making application to them who shall desire to commence the practice of veterinary medicine

or surgery in this State, and who shall not, by the provisions of this act, be exempt from such examination; and when an applicant shall have passed an examination satisfactory as to efficiency before the board in session, the president thereof shall grant to such applicant a certificate to that effect. A fee of five dollars shall be paid to said board, through such officers or members as it may designate, by each applicant before such examination is held. In case any applicant shall fail to pass a satisfactory examination he shall not be permitted to stand any further examination within the next six months thereafter, or until the next meeting of said board, nor shall he have again to pay the fee prescribed as aforesaid: provided, however, no applicant shall be rejected upon his examination on account of his adherence to any particular school of medicine or system of practice, nor on account of his views as to the method of treatment and cure of disease: and provided, further, that when, in the opinion of the president of the board, any applicant has been prevented by good cause from appearing before the board, the president of the board shall appoint a committee of three members who shall examine such applicant, and may, if they see fit, grant him a certificate, which shall have the same force and effect as though granted him by the full board.

8. The fund realized from the fees aforesaid shall be applied by the board to the payment of its expenses and to making a reasonable compensation to the president and secretary.

9. The secretary of the State board of veterinary examiners shall record in a book to be kept for such purpose the names of all practitioners of veterinary medicine or surgery in this State to whom certificates are issued allowing them to practice as provided for in this act. Said book shall be styled and recognized as the register of the practitioners of veterinary medicine and surgery in Virginia, and it shall be admissible in evidence. Said register shall be accurately kept by the secretary of said board, who shall at any time during business hours allow it to be inspected in his presence by any person interested, either at his office or at any meeting of the state board of veterinary examiners. Said secretary shall insert in said register any alteration in the name or address of any registered person which may come to his knowledge, and he shall also record the decease of any registered person as soon as he receives satisfactory proof thereof.

10. Any person who shall practice veterinary medicine

or surgery in this state in violation of the provisions of this act shall be fined not less than fifty nor more than five hundred dollars for each offence, and it shall not be lawful for him to recover by action. suit, motion, or warrant any compensation for services which may be claimed to have been rendered by him as such practitioner of veterinary medicine or surgery.

11. This act shall be in force from and after the first day of May, eighteen hundred and ninety-six.

NEW REMEDIES.

Compiled by W. V. Bieser, D.V.S., New York City.

Salantol.—According to Bourget, salantol is prepared by the action of acetone upon salicylic acid. Its action resembles that of salol, and is prescribed chiefly for diarrhœa.

Lychaol.—An extract of quiallaga saponaria, with its taste masked by appropriate substances, receives this name. It is seldom used as a medicament.

Benzacetin.—Benzacetin, or acetamido-methyl-salicylic acid, is a white crystalline body, melting at 205° C. It is soluble in alcohol, slightly so in water. It is recommended for neuralgia.

Baylahuen.—A drug consisting of the leaves and stem of a plant said to be haplopappus baylahuen of the aster family. It is recommended as a stomachic and as a remedy for diarrhœa.

Salifebrin.—A compound of antifebrin (acetanilid) and salicylic acid in molecular proportions. It is a white powder with an acid reaction, insoluble in water, easily soluble in alcohol. It possesses the same therapeutic action as salipyrin.

Salactol.—A compound consisting of the natrium salts of salicylic and lactic acids has been introduced under this name. Dissolved in a 1 per cent. solution of hydrogen dioxide it is recommended as a local application to the throat in diphtheria.

Lignosulfine.—This product is formed during the manufacture of sulpho-celluose. It contains free and combined sulphuric acid and certain volatile products of the wood. It is used chiefly as a disinfectant.

Ingestol.—Ingestol is a feebly opalescent liquid of a lemon-yellow color, containing magnesium sulphate, sodium sulphate, sodium chloride, potassium sulphate, ether, alcohol and iron salts. It is used in the treatment of ague and chronic stomachic troubles.

TUSSOL.—A preparation introduced under the name as a remedy for coughs is a saline compound of antipyrin and mandelic acid. Another statement is that it is a benzoic compound of antipyrin, and still another that it is hydrocyanic acid and antipyrin.

TANNIGENE—A compound of tannic acid and acetic anhydride. It is a yellowish powder, tasteless, odorless, and slightly hydroscopic. It is insoluble in cold water and dilute acids, slightly soluble in hot water or in ether, easily so in alkalies and alcohol. Used in treatment of chronic diarrhœa.

PAUCINE.—An alkaloid discovered in Merck's labaratory in the pauco nut, the fruit of the pentaclethra macrophylla, a native of the Congo region. It occurs in yellow scales, is insoluble in ether and chloroform, soluble in hot water and hot alcohol.

SALUBRIN.—Salubrin is the name given to another new remedy, the composition of which appears to be: Acetic acid, 2 per cent.; acetic ether, 25 per cent.; alcohol, 50 per cent.; water, 23 per cent. It possesses a strong antiseptic and hœmostatic action, and is used in dressing wounds and bruises.

BOROL AND CUTOL.—These bodies are aluminium borotartrate and boro-tannate respectively. Borol is soluble in water, cutol insoluble. The latter contains 76 per cent. of tannin, 13 per cent. of alumina, and 10 per cent. of boracic acid. They are both strongly astringent, and are designated as medicaments for dermatological use.

PARAFORM.—When form-oldehyde is heated for a certain length of time in an aqueous solution, it changes into paraform, a solid, white crystalline polymer, insoluble in water. It is used as an intestinal antiseptic. It has a strong, inhibitory action on the propagation of bacilli. One grain of para. form will sterilize 200 grains of urine.

LYSIDIN.—A basic compound obtained in the state of hydrochloride by heating ethylene diaming hydrochloride with sodium acetate. The water solution of this base is said to have a remarkable power of dissolving uric acid, and its application in the treatment of diseases arising from secretion of uric acid is being investigated. Lysidin is crystalline, of a light-red color, readily soluble in water, and possessing a peculiar taste.

ZINC SUBGALLATE.—Zinc subgallate is described as a non-irritating, non-poisonous, odorless, non-hygroscopic, greenish-gray, neutral powder, insoluble in all ordinary solvents, unaffected by light, and containing 44 per cent. of zinc oxide and 56 per cent. of gallic acid. It is used both externally and internally. Externally it is used in eczema, fresh and septic wounds, otorrhœa, gonorrhœa, and hemorrhoids. Internally it is recommended in fermentative disorders of the intestinal tract. Externally, it is applied pure or diluted with indifferent powders or ointments.

FERRIPYRIN.—Ferripyrin is stated to be a compound of ferric chloride and antipyrin. It appears as an orange-red powder, yielding with water, in which it dissolves with facility, a dark-red solution. It is said to possess marked hæmostatic properties and to be free from any causticity, and is used either as a powder or in the form of a 20 per cent. solution. It is also administered internally.—*Chem. Gaz.*

REPORTS OF CASES.

A PARTIAL RUPTURE OF THE STOMACH AND RECOVERY.

By GEO. JOBSON, V.S., Oil City, Pa.

A pony mare, six years of age, was one of a driving team, used by a Congressman in Washington during the winter of 1894. While connected with the National Veterinary College I was called, on December 22d, to treat her for acute indigestion, with which she was suffering. The attack was very persistent, and lasted about fourteen hours before the acute symptoms subsided, and it was several weeks after before she regained her normal condition. When Congress adjourned she was taken home with the rest of the stable, and in May, 1895, after my return from college work, I was again called to treat her for the same trouble at the home of her owner. All efforts failed to relieve, and death ended her suffering. As she frequently had slight colics during the interval between the first and last attacks, some abnormality was suspected, and a post-mortem held. A complete rupture of the cardiac extremity of the stomach, about six inches in length, was discovered, and the stomach contents had escaped into the abdominal cavity, death being due to this cause. The organ was everted, and an investigation revealed traces of a former rupture, which was shown by a scar about seven inches in length running parallel to, and about half an inch to the left of the line of demarcation which separates the stomach. The ragged edges of the wound had not completely healed for about two inches in the middle of the scar, and by a careful dissection traces of the injury were followed deep into the muscular coat. No doubt this injury occurred during the first attack, and was probably the cause of the frequent attacks of colic prior to death.

IMPERFORATE ANUS AND RECTO-VAGINAL FISTULA.

By GEO. JOBSON, V.S., Oil City, Pa.

A bay filly, about twenty-four hours after birth, was noticed by the owner to make frequent attempts at defecation, but could not accomplish it. An examination by him revealed an imperforate anus, whereupon Dr. W. E. McCray was immediately called in, and he removed a circular portion of the bulging tissue over the fæcal mass, thus making an artificial anus, through which the excrementitious matters escaped. The attendant was instructed to insert a sperm candle frequently, and endeavor to keep the marginal border from uniting. But this method was ineffectual and the opening closed in several days after the operation, and it was observed that the fæcal matter was escaping by way of the vulva. The doctor made a diagnosis of rupture of the floor of the rectum. The writer was consulted, and an operation agreed upon, to rectify existing abnormalities. When the day set arrived, the filly was cast and secured, and an examination revealed a rupture of the recto-vaginal wall, about two and a half inches in length. The anal opening was enlarged, the rectum evacuated, and washed out thoroughly with warm water by means of a syringe. The ruptured portion was everted by inserting two fingers into the rectum and turning the parts out through the vulva. The ragged edges, which had healed, were cauterized with a small feathering-iron made for the purpose, the object of this treatment being to set up adhesive inflammation, which I believe can be accomplished more successfully than by scarifying, and also with more speed and less pain to the animal. Four deep interrupted silk sutures were taken, the anal opening was further enlarged, and the animal allowed to rise. The after treatment consisted in keeping the bowels open and preventing the anal aperture from closing. In time the rupture healed nicely, and the stitches were removed. At first the fæces were expelled involuntarily, but now a sphincter muscle has developed and it performs its function properly, and to-day an observer who was not acquainted with the facts would not know that an abnormality had existed.

FLATULENT COLIC, ENTEROTOMY (REPEATED SEVEN TIMES), ACUTE MECHANICAL BRONCHITIS—RECOVERY UNDER INTRA-TRACHEAL INJECTIONS OF ESSENCE OF TURPENTINE (TEREBINE.)

By M. J. TREACY, Vet., 8th Cavalry, Fort Meade, S. D.

At 4 o'clock P.M., July 24th, last, there was presented for treatment, a magnificent army mule, weighing about fourteen hundred pounds, six years old, suffering from flatulent colic. There was no history to be had (there never is, in the army.) He seemed in extreme pain, manifested by continued restlessness, kicking, laying down for an instant and jumping up again almost immediately, with eructation of gases.

He received an extravenous injection of—

No. 1.	Eserine, - -	.065
	Pilocarpine, -	.130
	Water, - -	4.

This was followed by intense pain, and great struggles, during which he broke his halter strap and escaped, trotting away with that peculiar rigidity of his spine and abdomen always seen in animals suffering from acute tympany.

At 5 o'clock he was captured, and was now very much swollen, the injection not having any results, so far as could be ascertained, excepting one slight explosive discharge. Having no antiseptics within easy access, I performed paracentesis abdominalis simply by first incising the skin, and introducing a "*bulb-trocar*" of about three-eighths of an inch in diameter and about seven inches in length (this being the sample trocar and canula issued by the War Department) into the intestines, by a blow of the hand, through the right flank. In response, there issued an immense amount of gas; as the pain continued, I injected into the trachea—

No. 2.	Morphia Sulph., -	.324
	Water, - -	16.

which gave almost immediate relief. I am a believer in large doses of morphia, notwithstanding the strictures of a recent writer on this subject. This was followed by a draught consisting of—

No. 3.	Calx chlor., -	8.
	Water, -	128.

which resulted in apparent ease, and convalescence. At 6 o'clock, however, I found my patient again swollen, again punctured—relief. At 7.30 and at 9 o'clock again punctured. No. 3 prescription being administered every 3 hours (there is no choice of medicine for absorbing gases issued by the War Department.) At 4 o'clock, 25th, again called, again punctured. 7 o'clock again punctured left side—relief. 9 o'clock again punctured left side—relief. This time the animal commenced eating hay, circulation good, looked lively, in fact I commenced to take a more hopeful view of the case, when judge of my great disappointment, when again visiting the stable, at 10.30 A.M., to find my patient with livid mucous membranes, respirations seventy-eight, weak pulse, suppressed, painful cough, auscultation revealing rhonchus, and sibilus, cold extremities, sweaty patches over body—diagnosis, acute mechanical bronchitis. Now, as warm water, hot inhalations, hot poulticing, isolation, regulated atmosphere, or in fact any of the ordinary surroundings of a sick horse in civil life are luxuries which are beyond the "pale" of a government animal, I had simply to content myself by intra-tracheal injections, three times each day, of—

Terebine, - - 4.

The improvement commenced almost at once, the pulse and respirations were both almost normal on the fourth day, and on the fourteenth day from the initial attack my patient went to duty.

I never saw an acute case of mechanical bronchitis recorded before. I was induced to use the terebine directly into the diseased part (as I might call it) by its action as a disinfectant, and its stimulative effect on the respiratory organs generally.

It must not be supposed, for one moment, that the War Department issues either eserine, pilocarpine, or terebine, or anything else, either medicines or instruments in keeping with modern times; no such reckless extravagance is ever indulged in, although an application for forty pounds of roll sulphur, or other useless stuff, would meet with an immediate and cheerful response. Under those decidedly exhilaratory surroundings, it can scarcely be a matter of wonder or surprise that the condemned and death list of army animuls, in "these piping times of peace," reaches the enormous numbers of thirteen (13) per cent. annually.

FRACTURE OF THE ZYGOMATIC BONE, ITS REMOVAL, AND RECOVERY.

By W. E. Smith, D.V.S., Sedalia, Mo.

On the 26th of May, 1894, a fine-looking mare mule was brought to my office, being somewhat thin from hard work. Her owner gave the history of having struck her with a stone above the eye six weeks previously. I found an opening about half way from the left eye to the maxillary articulation, and also a small opening, discharging pus, just internal to the orbital process. On probing I found the cavity directing back under the zygomatic bone. On exploring the external opening I found small pieces of bone, which seemed to be adhered, so I told the owner I would have to use the knife to make any further progress in the examination. Having secured the patient in a standing posture by the owner's apparent hypnotism, I probed and found a large cavity, and made an opening about one and a half inches long, when I discovered that the periosteum had separated and taken some of the outside of the bone with it; so I caught some of these loose pieces with my forceps, and then cut them loose. I worked forward, and finally found a fracture at the junction of the zygomatic and orbital processes. I observed the lower jaw sat over to the right, about 5-16 inch at the corner incisor teeth. I laid bare the anterior portion of the zygomatic and took hold of the loose end, and soon found it had broken loose at the temporal bone also; so I felt that I had on my hands a severe operation—to dissect the muscles away, to disarticulate the joint of the jaw, and to displace this massive bone without any skilled help, seemed to me like failure staring me in the face. I looked for the mule to break loose or throw herself, but the owner would look at me and then at the mule, and I went on as much composed as possible under such circumstances; but, to my surprise, she only lifted one front foot after the other and pulled her head from me slightly when the ligaments of the joint were severed. Considerable hæmorrhage accompanied the extraction of this bone. I washed out the cavity with creolin solution and packed it with oakum. In twenty-four hours it was taken out and washed clean and repacked; and in a few days the inferior maxilla had come back to its place and mastication became better, the wound doing nicely. She fattened and worked hard after about the first thirty days, during which she was at pasture. She made a good recovery and was sold to a mule buyer, who failed to detect anything wrong. The head filled out to its natural size, and there seemed to be a fibrous articulation formed to meet the condyles of the inferior maxilla. On examination of the extracted bone I find at the point of injury a dark spot, and under it the bone is very porous and the menisci gone, and the condyles worn where they rubbed to about 1-32 of an inch.

A VERY STRANGE CASE.

By Jno. Minchin, V.S., Goshen, N. Y.

On the afternoon of February 21st, while passing the residence of Supervisor Wells, I was hailed and invited to drive in, as the butcher would like to see me. I followed the man to the barn, where I found the butcher in the act of flaying a very fine beef, yet steaming hot. He said, "I am glad we saw you pass, I have something here to show you," etc. I said, "Yes, John, that is a very nice beef." "Yes," said John, "but that's not what I want to show you, or what I can't show you, perhaps you will say." There was nothing but the contents of the abdomen removed—the heart, lungs, liver, etc., were intact—so also the bladder. The butcher wanted to know if I missed anything, but, in fact, I did not. He said, "Don't you miss the calf-bag?" (as he called it), and then I did. On inquiry about it, he told me there was none, a thing, if I had not seen for myself, would not have believed, for, indeed, there was none; not the remotest sign or vestige of a vulva, vaginal cavity, or any of the genital organs could be found. Where the vulva ought to be we found a very small orifice that would not admit of my smallest finger. But in using the probe, found the way into the bladder. On section of the urethra found everything normal. This was a four-year old heifer, never known to be in heat or "rutting," raised on the farm, and made an excellent beef. The butcher said he was in the business nearly forty years, but never saw anything like this before; and in all the obstetrical literature I have ever seen, not a single case of the kind have I ever found reported.

Question—Have you, Mr. Editor, or any of the readers of the REVIEW, heard of one?

TETANUS—ANTI-TOXINE—DEATH.

By ROSCOE R. BELL D.V.S., Brooklyn, N. Y.

The following case of tetanus is recorded—not because of any peculiarity of the disease, nor of any original observation in connection therewith, but simply to describe the use of this new serum and the phenomena of its action upon a tetanic subject. The author has no comment to make upon its failure to cure nor ameliorate the symptoms; he simply records the facts as they transpired in the description of the general characteristics of the malady in this particular patient.

On Saturday, December 28th, I was called to see a roan gelding, about eight years old, one of a team of family horses belonging to Senator-elect Peter H. McNulty, residing at Kensington, 29th Ward of Brooklyn. The patient had been driven the previous day, but showed stiffness, poor appetite, and the dribbling of saliva. When I first saw him the disease was well marked, it having the opisthotonos form, with the membrana nictitans well protruding upon elevation of the head, and trismus so far advanced that the incisors could only be separated half an inch. Food of a sloppy nature, and water could be partaken of sparingly. He was thoroughly examined physically, and by inquiry for the presence of traumatism; but history and search revealed nothing further than a slight epidermic chafing from a saddle, which presented no peculiarities, and certainly did not impress me as being a point of infection. Under our old methods, I should have called this a case of idiopathic tetanus, but in view of modern developments we are compelled to recognize its microbic origin, and admit that the specific bacteria must have gained entrance into the organism, whether through this slight abrasion or otherwise.

I at once placed the patient in a dark box-stall, removed the chain fastenings of the other horses, and substituted them with rope, administered tartar emetic both in the drinking water, and by oral injection. The next morning I saw the owner and gave him but little hope of recovery, suggesting at the same time a trial of anti-tetanine, to which he assented. I procured from the New York Biological and Vaccinal Institute ten doses of anti-toxine, giving to the Director of that institution the above history of the case, and in the following recital of its exhibition I have followed his instructions as nearly as possible:

Sunday night, Dec. 29.—Found patient with pulse of 42, respirations 54, temperature 100°. At 8:45, administered two doses of 25 cc. each by injection into the jugular vein, and four doses of same size hypodermically along the neck, having carefully shaved the hair and bathed the skin with antiseptic solution. Before the injection had become completed the patient became excited, which was undoubtedly due to the serum, as the puncturing of the skin by the needle caused him no uneasiness. In fifteen minutes the excitement was considerable, respirations 90 per minute, and pawing with front feet. At 9:30, respirations were somewhat slower (about 75), of a paroxysmal character; pulse, 46; sweating at the flanks. I left him for the night at 10 o'clock, free from excitement, and on my return in the morning the groom reported that he had remained in that condition throughout the night.

Monday morning, Dec. 30.—Tumefaction at the point of jugular injection and one other point, while the remaining punctures showed no swelling. Pulse, 42; respirations, 64; trismus a little more pronounced than on the preceding visit, and the general rigidity of the muscles unchanged. Injected two doses hypodermically on the opposite side of neck, with the same antiseptic precautions; excitement began during the injection, and five minutes after its completion respirations were 104; temperature, 100°; pawing slightly, kicking at belly with hind feet.

At 8 o'clock in the evening temperature was 100$\frac{2}{5}$°; pulse, 44; respirations, 60. Trismus same as in the morning. Rigidity of muscles, same.

Tuesday, 11 A.M.—Temperature, 99½°; pulse, 40; respirations, 54. Trismus not quite so well marked; incisors opening about three-quarters of an inch. A peculiar feature was first observed at this visit, which consisted in paroxysmal coughing, which was so violent that it greatly exhausted the patient. These spells would return every five minutes, ultimately ceasing. Injected one dose hypodermically, which caused very little excitement.

At 5:30 P.M. of same day pulse was 48; respirations, 84; temperature, 101°. Coughing not so severe, trismus and general rigidity about same.

Wednesday, 11 A.M.—Temperature, 100½°; respirations, 60; pulse, 48. Great difficulty and disinclination to drink, cough same as previous night, and discharge of thick, cheesy matter from nostrils. Trismus same. Patient very quiet. Can eat and drink practically nothing. Injected one dose hypodermically.

Thursday, 11 A.M.—Temperature, 101°; pulse, 60; respirations, 72. Patient very quiet. Eating and drinking nothing. Trismus about same.

Friday, 9 A.M.—Found down during night, and died at 5 A.M.

RUPTURE OF THE COLON—PERITONITIS AND DEATH.

By W. F. DERR, V.S., Wooster, O.

On April 20, 1890, I was called to examine a six-year-old bay mare, said to be suffering with colic. On arriving, the owner informed me that some three weeks before she had been kicked by another horse in the right abdominal region, and at that time had refused several meals, but had done her usual amount of work, showing only some griping pains in the right flank, for which he prescribed laxative doses of oil and small doses of bicarbonate of soda, which gave her some relief. In these attacks she would always lie on her left side, look at the right flank, would lie quietly when down, felt better as long as her bowels were in a lax condition. Such was the history the owner gave me.

The animal was lying down at this time. I took her pulse, which was 80, weak and thready. I asked her to rise, which she did promptly and easily. As soon as on her feet, however, she cast her nose to the right flank. I now made a more careful examination; pulse, 90; temperature, 106°; respirations, 32; anxious look, visible mucous membranes of a leaden hue. On closer inspection, I found an area of about nine or ten inches in the right flank, of a hard character, which on manipulation caused her great pain. Percussion elicited a dull sound over an area of about twelve inches, pitting on pressure over the same surface. She defecated about this time, which seemed painful to her. I informed the owner that she had peritonitis, due to an injury, and that the case was hopeless. He, however, desired treatment, when I prescribed anodynes and stimulants internally, warm fomentations externally. She died during the night and a post-mortem was held in the morning, which revealed a small abscess containing about two ounces of fœtid pus in the abdominal muscles, and a transverse rupture of the colon of about five inches, which had become adherent to the abdominal walls. There was extensive inflammation of the large intestines, with great thickening of the peritoneum surrounding the injury for a space of about twelve inches. There was packed fœcal matter of a dark color, very fœtid, with an accumulation of mucous over the parts where the fœcal matter had passed through.

The case was a remarkable one to me. Why some of the fœcal matter had not made its way into the peritoneal cavity, but had packed itself against the abdominal walls, and held there until adhesions occurred, and also the animal doing more or less work for three weeks or more, seem strange to me.

PARAPLEGIA.

By Herbert S. Perley, V.S., St. Albans, Vt.

On Sunday, Nov. 20th, I was called to see a lame horse which was in a pasture about a mile from town. I found the animal, a bay gelding, seven years old, about sixteen hands high and weighing about 1,100 pounds. He was poor in flesh and had evidently seen hard times, being scarred in many places about the legs, evidently from severe duty of some kind, and with partially healed shoulder-galls.

He showed signs of extreme exhaustion, and his sides bore evidence of recent severe duty of a whip. When first seen, he stood in a natural position, with the head down, and had the appearance of sleeping. Upon being moved he walked very slowly and dragged the hind feet along the ground, appearing unable to raise them at all.

The history of the case was as follows:

The animal had been subjected to a hard drive of about twelve miles Friday night, and had started back about 3 A.M. Saturday morning, and when about three miles from home, had stumbled, and, after going a few steps, had fallen down. Upon being urged he had raised his foreparts and remained sitting up like a dog, but was unable to rise completely. After resting for some time, he got up with help and walked a few rods, where he remained till Sunday morning, when he was brought to the pasture where I first saw him.

I did not make a very thorough examination at once, but ordered him brought to my infirmary.

I made an examination about an hour after he arrived at the hospital, and noted the following conditions:

Pulse and temperature normal, visible mucous membranes normal, but the animal showed an anæmic condition. Partial loss of power of hind limbs, the feet being dragged along the ground when the patient was compelled to walk. The tail was raised with difficulty and only about an inch or two; coldness of the hind parts posterior to the lumbar plexus. My diagnosis was either a rupture of a blood-vessel and a consequent blood clot pressing on the spinal cord, or a fracture of a vertebræ.

I put the patient on a good nourishing diet of ground oats, bran mashes, and the best of hay and carrots. Gave iron and arsenic as a tonic and alterative, and liquor strychnia and iodide of potash in large doses. Applied ammonia liniment over lumbar vertebræ and bathed the hind limbs in mustard and water. At first decided to put the animal in slings, but as he laid down often and got up without much trouble I did not do so. His appetite was good and he passed urine and fæces without aid. His temperature and pulse were taken twice a day, and at no time were they abnormal. Monday and Tuesday he was about the same, but seemed better on Wednesday, and was decidedly so on Thursday, but towards night seemed worse again. Appetite remained good and he laid down at least twice during the night. Friday morning he was worse, walked with great difficulty and had hard work to get up after lying down.

While I was out making visits in the afternoon he got down and was unable to rise. My assistant and the groom tried to get him up, but could not do so alone, so procured some more help and tried again. They had the door of the box-stall open and in some way during their efforts the horse got partly up and staggered out of the door into the yard, where he lay unable to move.

My assistant covered him up and gave him a hypodermic of ether, and in half an hour or so the horse got up alone and walked into the stall. He was lying down when I returned, but got up and ate his feed, remaining up for an hour or so.

At 10 P.M. he was down and stretched out flat, breathing heavily and evidently in pain. Temperature was normal, but pulse slightly quickened and weak. I gave stimulants and a dose of chloral-hydrate and left him about 11:30 apparently easy.

On going to the infirmary at 5 A.M. Saturday, I found the horse sweating profusely and evidently dying. He had been easy until about ten minutes before I came, when he had begun to thrash around and had waked up my assistant, who sleeps at the infirmary. He was in constant pain for an hour, when he died.

I had him removed at once and held a post-mortem. I was unable to make up my mind what could have caused death, and all the way to the bone-yard was trying to account for death from the symptoms presented. On making a careful examination of the lumbar region, I was unable to discover any lesion except a blood-clot, which proved my diagnosis, but did not account for so violent and sudden a death.

On examining the thoracic cavity, I found congestion of both lungs sufficient to cause death, in fact the entire lungs were affected. How this could occur and there be none of the symptoms of such a condition puzzles me. Could it be possible that the injury causing a coldness of the posterior parts was sufficient to keep the temperature down, and was there a high temperature present and not yet shown by a thermometer in the rectum? Did congestion of lungs exist all the time or only after the animal got out of the stall?

FATTY TUMORS.

By E. D. BACHMAN, D.V.S., Chester, N. Y.

I am not as free with my pen as I would like to be in reporting this case for the readers of the REVIEW, and on that account will ask their indulgence.

The subject was a brown horse, some eight years old, in good health and sound working condition, except for the fact that he had for some time carried on his chest and fore quarters, and also on some parts of his neck and body, a number of tumors of various sizes, some of which having become so large as to render him entirely unfit to work. As can be seen by the photo that I have had made, and which I send you, Mr. Editor, one of these tumors was in the front of the chest, extending from the lower part of the neck to under the chest and spreading sideways between both points of the shoulder. There was one on each side, on a level with the elbow, others smaller, though quite large also, and a number of small ones on the neck and on the body. These four were of no great amount, but the first that I mentioned prevented the horse from working and had to be removed.

I did so, by dissection, as well as it could be done with the abundant superficial hœmorrhage which was present, a few large vessels requiring a ligature to control the hœmorrhages. The wounds left after the removal were very large, but healed without great difficulty—under antiseptic dressing—leaving a scar of very small size, not larger than a silver dollar. The largest tumor weighed in the neighborhood of forty pounds. When cut through it seemed to be a mass of fatty matter, with now and then a cell of broken down tissue, with a thin, watery substance of a yellowish brown color.

EXTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

A SINGULAR CAUSE OF ROARING.—This case, recorded by J. A. Nunn, F.R.C.V.S. in the *Veterinary Record*, is unusually interesting on account of the peculiarity which gave rise to it. A ten-year-old Arab pony was brought to him suffering with what seemed to be strangles, though its age was against the diagnosis. The animal was put under the ordinary treatment, and after a few days a maxillary abscess was opened, giving escape to unhealthy pus and to a rusty sewing needle. A fœtid discharge with a necrotic smell kept running, and to find the cause of this the animal was thrown, an incision made on one side of the median line "from about four inches from the junction of the two branches of the lower jaw, nearly down to the larynx, where the small and great cornuœ with the anterior two-thirds of the great hyoidal branch of the right side were found necrosed." These were dissected without difficulty and removed—the great branch being cut off above the diseased part with a bone forceps. The recovery took place several weeks afterwards. It was complete with the exception that the animal is a confirmed roarer; he is, however, able to perform his work.

AN ELBOW CASE.—Mr. F. G. Ashley, F.R.C.V.S., in the *Veterinary Record*, records a case of lameness of the off fore leg in a three-year-old, which shows the importance of careful treatment with abundant doses of patience in those injuries which take place about joints which seem at first trifling, to such an extent that they are often overlooked, and which shortly afterward give rise to most alarming symptoms, not uncommonly leading to fatal termination. In this case the animal had received a wound which seemed of no importance, and, after a few days, was found very lame on the off foreleg, with every indication that the elbow was the seat of the trouble. What was the true nature of the case could not be positively ascertained, but the presence of the wound, the discharge of synovia, the enormous swelling which followed, the immobility of the part, the great soreness of the region, the impossibility of motion or weight carrying, etc., all justified the diagnosis as well as the prognosis, which was rather unfavorable, except for the age of the patient. The treatment was long and complicated. Slings, warm fomentations, antiseptic injections of the wound, antiseptic dressings, then cold, continued irrigation, repeated blisters, were successively employed, with the satisfactory result of a good recovery.

INVERSION OF THE BLADDER IN MARES.—This condition is not as common probably in mares as it is in cows, but at the same time is met with by practitioners. Mr. H. Thompson relates three cases of some interest in the *Veterinary Record*. In the first he was successful in returning the displaced organ into its position, but did not succeed in making it remain until after three attempts, which were followed by the return of the difficulty. At last, before removing his hand from the passage, he cauterized the margin of the meatus with nitrate of silver, quickly withdrew his hand and ordered the man who held the mare to trot her sharply, while he dashed a few pailfuls of cold water under her tail. In the second case the mode of treatment was the same, but the mare died from twisted bowel. In the third, a mare while foaling had also inversion of the bladder, which was ruptured for about six inches, the urine flowing in a continuous stream. The mare was destroyed.

PURPURA HÆMORRHAGICA.—"Veteran," in the October *Veterinary Journal*, reports a case of this disease in a heavy draught horse, which shows the results observed by him with the iodine treatment. This animal presented well developed symptoms of the disease, and was placed first under chlorate of potash, which has generally been highly successful with "Veteran." But little improvement followed, and after several days, the iodine treatment by intra-tracheal injections was started, which consisted in injecting once a day for six days about four grains of iodine, the solution being made of 1 part of iodine, 2 of iodide of potash, 100 of distilled water. The author says that the "beneficial results were little short of marvellous," and recovery was from that moment assured. Considering the disease somewhat of germ nature, the author insists upon attention to hygienic surroundings, and on that account also recommends the use of iodine, which by its germicidal and antiseptic properties, must be strongly indicated.

RUPTURED SPLEEN.--This lesion is one which has not been very often recorded, and Mr. Craik, M.R.C.V.S., reports the following interesting case in the *Veterinary Journal:* It was a bay colt, four years old, which had done its usual day's work, and was found with his head carried low down, seeming to be propped up on its four legs, leaning forward a good deal, swaying forward, and then fell to the ground. The pulse was thready, could not be counted, legs and ears deathly cold, all visible mucous membranes pale white, breathing accelerated and shallow, no sweating. The animal was evidently dying from an internal hæmorrhage. The end took place after a few hours. On post mortem large clots of blood were found. The spleen had a large ragged fissure on its capsule, which led down to the splenic pulp. All other organs were healthy.

FOREIGN BODY IN THE PHARYNX OF A DOG.—"Nemo" records a case which impresses the necessity of careful examination of the throat in small animals, showing difficulty in deglutition. An Airedale terrier exhibited the following symptoms: He was dull, held his head on one side, assuming the position of a dog suffering with canker of the ear. There was complete anorexia and difficulty in swallowing. A little glycerine was administered and immediately rejected, producing coughing and retching. The dog stood on its hind legs and violently scratched its jaws and face with its fore feet. It lay on the ground, and, putting its head between its forepaws, tore the sides of its face as if it would scratch its eyes out. Great salivation existed. Nothing could be found in the mouth or pharynx, but a second exploration was made, pulling the tongue well forward, when a thin, hard substance was detected sticking out of the very back of the tongue on the left side. This proved to be a piece of black sewing cotton and a needle. The point of the needle had pierced the tongue, and by subsequent movements of the jaw and expulsatory efforts, had been pushed into it. The cotton had been swallowed. Recovery followed immediately upon the removal of the offending body.

GERMAN REVIEW.

By W. V. BIESER, D.V.S.

THERAPEUTICAL ACTION OF CHLORIDE OF BARIUM.—The following are two cases of colic, which show conspicuously some undesirable, but otherwise not serious, concomitants noticeable in the attainment of the physiologico-therapeutical action of chloride of barium.

Case I.—A dark brown six-year-old stallion, after suffering from constipation, showed symptoms of most intense colic, borborygmi being almost entirely absent. After giving an intra-venous injection of barium chloride 1.0; aq. dist. 10.0, the animal contracted his upper lip, swung his tail actively, and, after severe moaning and vigorous straining, passed several hardened fæcal lumps. He was led about the yard, passing wind and fæces profusely and almost uninterruptedly for about two hours, when, owing to the prostration resulting from the profuse discharges, he was stabled.

Thereupon a muscular tremor set in, which spread itself over the entire body, but manifested itself most conspiciously in the limbs.

The skin, whose temperature seemed to be elevated, but unequally so in various regions, was covered with sweat in the region of the flanks, the pulse and respiration were markedly accelerated, the rectal temperature was elevated 0.5° C. The prostration increased hourly, attaining at midnight such a height that the animal was unable either voluntarily or with assistance to rise from the recumbent posture; at this stage the animal was wholly covered with sweat and passed semi-liquid fæces almost continuously from the anus. By morning, however, the pulse and respiration had righted themselves, the appetite had partially returned, the temperature alone remaining elevated. Upon leading the animal into the yard, a curious symptom showed itself, viz: decided foot lameness in the off fore limb; this lameness was associated with pain, as was evidenced in the face of the animal, or in the behavior of the animal when attempts were made to merely touch the foot. An examination of the hoof showed an increase of warmth appreciable by the hand, the manifestation of excruciating pain upon the gentlest tapping with a hammer, especially over the wall and the sole, stronger pulsation in the digital arteries, all denoting an inflammation of the hoof (pododerm superficialis). Associated with this was a very characteristic condition, viz: a moderately circumscribed inflammatory œdema extending from the hoof to the knee joint. This ætiologically interesting lameness, which furthermore refused to respond to the ordinary remedies, ice, vinegar, poultices, etc., lasted three days, at the end of which period all inflammatory symptoms subsided, and total recovery ensued. Four days after the colic the animal was at work again.

Case II.—A six-year-old stallion, suffering from constipation and colic, having received 10.0 gramms of barium chloride per os, developed symptoms similar to those of Case I; viz: acceleration of pulse and respiration, marked swelling of the limbs, the œdema within 24 hours extending to chest and abdomen, but disappearing again as in the former case after a few days rest, the patient during all this time having given one the impression that he had been stalled too long.

The œdema, coming on after the administration of the barium chloride and disappearing in both instances after the drug had had time to be eliminated, must therefore be traced to the action of the salt. Ætiologically considered, these inflammatory manifestations are probably the indirect results of a paralysis of both the motor and sensory nerves, which paralysis is in turn primarily produced by the marked circulatory disturbances which the drug produces, and which were so noticeable in both instances.

In conclusion, one must not let these concomitant effects of the drug detract from its value, inasmuch as they are only temporary and not serious. Regarded in the light of my experience, it is a remedy worthy of the highest praise.—*Berl. Thierarzt Woch.*

STATISTICS UPON THE TREATMENT OF COLIC WITH BARIUM CHLORIDE.—Of 51 cases of colic treated (from July 15th to August 15th, 1895) with barium chloride in Prof. D.'s clinic at Berlin, 6 died; the causes of death are such as were amenable to no therapeutic resources, viz.: either twistings or rupture of the gut.

In addition to these cases, of 163 cases treated from Aug. 15th to Dec. 31st, 1895, at the same clinic, 5 died immediately after entering the hospital, before any treatment could be resorted to; of the remaining 158 cases of acute colic, 19 were treated with sulphate of physostigmine with a mortality of 3, and a recovery of 16; the causes of death were volvulus of the jejunum and twisting of the large colon. The remaining 139 were treated with the intra-venous injection of barium chloride. I must insist that in these 139 cases of acute colic, barium chloride alone with no other adun cts was employed. Of the 139 treated only 12 died. the fatal outcome being due to the following causes; (*a*) Twisting upon its axis of the colon in 7 instances. (*b*) Volvulus of the jejunum in two instances. (*c*) Incarceration of the jejunum in an abnormal opening of the great omentum in one instance. (*d*) Incarceration of a loop of the small intestine into the foramen of

Winslow in one instance. (*e*) Entero-peritonitis in one instance.

Hence it is evident, from these statistics that, exclusive of the cases of occlusion of the bowel which one cannot expect to yield to any therapeutic treatment, the intra-venous injection of barium chloride will cure all cases of acute colic. The determination of the proper dose in each individual case presents no difficulty after one has had any experience with the method.

An examination of the frequency and force of the submaxillary pulse is the best guide. Should the heart show weakness or the pulse be weak and frequent, one-half the dose ordinarily given should only be employed. But even here in these small doses, barium chloride affords more relief and is a better carminative than any other remedy. In calculating the dose for intra-venous injections, one must calculate it in deci-grammes, the same rule applying as in the internal administration.

With such precautions in mind, the barium chloride treatment was inaugurated at D.'s clinic; no case of poisoning from the remedy has as yet materialized.—*Berl. Thierarzt Woch.*

THE FUNCTION OF THE MUSCULAR COAT OF THE BLADDER IN NORMAL MICTURITION.—G., in an experimental research, found that the vertical orifice of the bladder is normally opened by contraction of the unstriated muscular tunic, and that the contraction of this muscle is necessary to the expulsion of the urine. The contraction of the abdominal muscles may aid in this action, but it is not indispensable, and cannot replace it.

Although volition seems to be directly concerned in the act of micturition, it acts rather by causing, through a psychic act, reflex contraction of the muscular coat of the bladder. Ordinarily, the contraction of the muscular coat is the result of a reflex having its point of departure in a special sensibility of the bladder to tension, the two properties of the bladder, contractility and sensibility, being intimately related, and being manifested in perfect accord in the physiological activity of the viscus.—*Wochenschrift.*

PROFESSIONAL HONORS.—Prof. Nocard, of Alfort, has been nominated honorary member of the Royal Society of Agriculture of England, and also honorary member of the Hungarian Society of Hygiene.

SOCIETY MEETINGS.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

This Association was called to order by President John R. Hart, Tuesday, February 11, at 8:30 P. M. The members present were: Drs. Eves Hoskins, Hart, Lintz, McClellan, Rhoads and McAnulty. The visitors were: Thomas B. Raynor, F. S. Allen, J. O. George, J. C. McBirney, B. M. Underhill and some students from the Veterinary Department of the University of Pennsylvania.

Dr. Hoskins gave a very encouraging report of the bill endorsed by the Association at the previous meeting, and earnestly solicited the continued work of all veterinarians for this measure.

It was announced that the State Board of Veterinary Medical Examiners will meet in Philadelphia, April 20 and 21, for the purpose of giving examinations.

Dr. Eves gave a very interesting talk, during which he brought out many good points regarding legislation, also freely discussing many diseases with which they had to contend, among which were tuberculosis, anthrax, hydrophobia, ringworm in cattle, tetanus, menengitis, hog cholera, œstris bovis and contagious abortion. He said they had condemned about 200 cattle out of 1,100 examined for tuberculosis, and the post-mortems held on 90 per cent. of them had always proven the correctness of their diagnoses. The tuberculin used is that made by Prof. Chester at the Delaware Experiment Station, and they found it equal to Koch's. They take the temperature for two days before and one day after making injections, and all cattle showing a reaction of one to one and a half degrees are condemned. They have fifty to sixty fatal cases of anthrax annually. This is found principally on the salt meadows, and is traceable to the infected districts of New Jersey, being brought to Delaware by the flood tides. They have inoculated 850 cases and returned them to the infected district, with a loss of but two, eight and six weeks respectively after their return. They use in each case 0.3 c.c. of virus of three grades: No. 1 kills white mice invariably, and nothing else; No. 2 kills white mice and guinea-pigs in 60 per cent. of all cases; No. 3 kills guinea-pigs invariably, but has never as yet killed a rabbit. They have an appropriation of $500 for burying cattle having died with anthrax. They have tested fourteen cases of glanders at

Middletown with mallein without reaction. He spoke of a mare having a discharge from nostrils for three years suddenly becoming worse, and upon the mallein test gave re a-tion of 103 3-10 degrees, and destroyed and diagnosis proven. Myotic enteritis, in some cases supposed to be caused by feeding decaying turnips, disappeared when the feeding of the turnips was stopped; yet cattle at the experiment station fed on these turnips became fat. The chemist upon examination failed to find any chemical poison. The ringworm in cattle has been traced to the importation of York State calves, and if taken early yields nicely to external applications of tincture of iodine. Tetanus is not nearly so prevalent as it was two years ago. The tetanine used is manufactured at the Pasteur Institute. He also spoke of hog cholera, œstris bovis, contagious abortion (which they treat very successfully with hypodermic injections of carbolic acid), and menengitis, which has caused a loss of five to six thousand horses within the last ten years. This they suppose is due to ptomaines produced by the death of a fungus. Though they have fed food from the infected stables and have grown cultures from all the fungus found around the premises and fed the pure cultures to young horses, they have failed to produce the disease in a single case.

Mr. McBirney exhibited two very interesting specimens, one being a section of pancreas from an ox; it consisted of a large duct filled with small white granules, resembling homeopathic pills, about four ounces. The other was a honeycombed piece of carbonate of lime, two by two and a half inches, taken from the brisket of an ox. Each of these animals was in good condition.

Dr. McAnulty and Dr. McClellan each reported the recovery of a mule from menengitis.

Dr. B. M. Underhill reported a case of rabies in a chestnut gelding, nine years old. The symptoms were first noted on Sunday, he became very violent by Tuesday, the constant movement of the jaws causing a frothy saliva to exude from the lips. He was destroyed with a rifle Tuesday at noon.

Dr. Eves reported the successsful treatment of a dog and a horse that had been bitten by a rabid dog, with Pasteur's virus.

Dr. McBirney cited a case of rabies in a two-year-old colt that had been bitten by a wolf.

After extending a vote of thanks to those who gave papers or reports, the Association adjourned to meet again March 10, 1896. W. L. RHOADS, *Secretary.*

[NOTE.—The minutes of the March meeting of the Keystone Veterinary Medical Association have been received from Secretary Rhoads, but their publication is necessarily deferred until the May REVIEW.]

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular meeting of the Veterinary Medical Association of New York County was held on March 3, 1896, at 9 o'clock P.M., with the President, Dr. Huidekoper, in the chair. On roll call the following members responded: Drs. Amling, Bretherton, C. C. Cattanach, J. S. Cattanach, Caulfield, Delaney, Ellis, Ferster, Farley, Foy, Giffen, Gill, Huidekoper, Hanson, Hueppe, Jackson, Loomis, Lamkin, Lellman, MacKellar, Neher, O'Shea, Parsons, Ryder and Turner (25).

Board of Censors: Dr. Gill, Chairman, reported that on account of Dr. Johnson's inability to be present at the meeting of the Board, that they had concluded to postpone action on his case until the next meeting, and that in the case of Turner and Finley, the Board decided to give the parties in the case until the next meeting to produce the court records, when, if they were not produced, the case would be dropped. In the case of H. Clay Glover, for violation of the code of ethics, the Board decided to postpone his case (he being out of the city) until the next meeting.

Papers.—Dr. Lellman then read a paper on "Demodex Folliculorum and Herpes in the Dog and Leukemia in the Cat."

Reports of Committees.—Dr. O'Shea, Chairman of the Committee on Legislation, reported that the jury bill was doing nicely, and that the committee had received word from the Committee on Legislation of the N. Y. S. V. M. A. to the effect that an amendment had been made to the bill introduced by Mr. C. C. Cole, of Syracuse, allowing any graduate of a veterinary school who received his degree prior to July, 1895, to register, provided he had practiced veterinary medicine in some county in the State, even though he had failed to register in his own county; and that the Committee on Legislation of the County Association suggested that the applicant, in bill referred to, be asked to pay ten dollars on presenting his application to register.

The committee also suggested that they be empowered to have drawn up a bill requiring that all meat and milk inspectors in the State be graduates from veterinary schools.

Moved and seconded that the report be accepted and the committee empowered to act. Carried.

Moved and seconded that the president appoint a committee of three to frame resolutions to the Fire, Police, Street Cleaning and Charities and Corrections Departments, to the effect that they employ only graduates of veterinary colleges in the treatment of their stock. Carried.

This was also embodied in the work of the Committee on Legislation.

Committee on securing room at the Academy of Medicine, Dr. Hanson, Chairman, reported that a comfortable room with seating capacity for about forty people could be had for ten dollars a month. After some discussion it was moved and seconded that the Association take the room. An amendment to the motion was offered to the effect that a committee be appointed to investigate the financial condition of the Association before taking a decided step in reference to securing the room.

The amendment was put before the meeting and lost.

The motion was then put before the meeting and carried.

It was then moved and seconded that the committee be empowered to hire the room for the next meeting. Carried.

Moved by Dr. Hanson, and seconded by Dr. Neher, that a vote of thanks be extended to Dr. Gill and the members of the faculty of the N. Y. C. V. S. for their hospitality in allowing the Association the use of their rooms in the past. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBT. W. ELLIS, D.V.S., *Sec.*

MASSACHUSETTS VETERINARY ASSOCIATION.

A meeting of this Association was held at 19 Boylston Place, Boston, January 21st, with a good attendance.

Drs. Langdon, Frothingham, of Boston, and A. Lannon, of Malden, were elected members. The application of Dr. J. Marshall was received.

Dr. Parker read a paper on "Milk as a Factor in the Causation of Disease,"* and a general discussion followed, in which Drs. Cooper Curtice, Osgood, Burr and McLaughlin took part.

HOWARD P. ROGERS, *Sec.*

WISCONSIN SOCIETY OF VETERINARY GRADUATES.

The annual meeting of this Society was held in Madison, at the City Hall, Wednesday, February 5, 1896.

The meeting was called to order by the President, Dr. J. P. Laws, at 1:45 P.M. The roll was called, and the following members responded: W. G. Clark, J. R. Kelso, J. P. Laws, G. Ed.

---

* Will be published next month.

Leech, E. L. Morgenroth, E. H. Newton, C. H. Ormond and J. F. Roub. Visitors: Drs. G. H. Fay, A. H. Hartwig, B. L. Clarke and Walter Pick. The minutes of the last meeting were read and approved.

The President in his report gave a brief history of the Association from the time of organization to the present date, which was interesting and instructive. The Secretary's report of accounts was read and accepted. The Treasurer's report was read and accepted.

Dr. S. G. Binger, of Browntoan, Green County, was expelled from the Association under charges preferred against him at the last annual meeting.

Dr. Roub read a letter from Dr. Schmidt stating that he had fractured his hip and could not be present. On motion, the sympathy of the Society was tendered Dr. Schmidt.

Moved by Dr. Leech, and seconded by Dr. Roub, that a resolution of regret in regard to Dr. Brauchle's death be spread upon the minutes. Carried.

Applications for membership: Dr. G. H. Fay, Ripon (C.V.C. '93), Dr. A. H. Hartwig, Watertown (C.V.C. '95), Dr. B. L. Clarke, Monticello (C.V.C. '95).

A short recess was taken while the censors considered the applications. The censors reported favorably on the applications, and it was moved and seconded that they be elected to membership. Carried.

The Committee on Legislation reported in regard to the bill to regulate the practice of veterinary medicine and surgery, which was before the Senate at the last session. The committee was unable to bring sufficient influence to bear to secure the passage of the bill. On motion the report was accepted and the committee discharged.

On motion, the Society proceeded to the election of officers for the ensuing year. The following gentlemen were elected:

President, Dr. G. Ed. Leech, Milwaukee; Vice-President, Dr. C. H. Ormond, Milwaukee; Secretary, Dr. W. G. Clark, Beaver Dam; Treasurer, Dr. J. P. Laws, Madison; Censors: Drs. A. H. Hartwig, Watertown; Dr. B. L. Clarke, Monticello, and Dr. E. H. Newton, Waupun.

Moved by Dr. Leech, and seconded by Dr. Kelso, that the Society revert to new business. Carried.

On motion, the Secretary was instructed to inform the Society of members who have not qualified, and have been elected members of the Society. The following names were read and voted upon separately, and dropped from the roll of the Society: Drs. F. E. Stone, S. W. Mount, J. L. Kearney and I. Philip.

Moved and seconded that inspectors of the Bureau of Animal Industry be invited to attend and take part in the Association meetings.

On motion the Society adjourned until 7:30 P.M.

Meeting called to order by the President at 7:30 P.M.

The question of legislation was discussed, and it was decided to appoint a committee to draft a bill, and present it before the Society at the semi-annual meeting. Drs. Leech, Clark and Law were appointed as a committee on legislation.

On motion, the subject of army veterinary legislation was referred to the Committee on Legislation.

Dr. Leech introduced a resolution requesting that the Association adopt, at the next meeting, as a part of its code of ethics, the following: "It shall be deemed a violation of the code of ethics for any member of this Association to contract with, or through the officers of any live stock insurance company, for the professional treatment of the members' stock so insured, but this rule shall not prevent any member from becoming the examiner of risks, and to act in the capacity of expert for the same." On motion, this was laid over until the next meeting.

The reading of essays being next in order, the following papers were read: "Shoeing," Dr. E. L. Morgenroth;* "Scientific Breeding," Dr. J. R. Kelso;* "Equine Relapsing Fever," Dr. T. W. Watson;* "Veterinary Meat Inspection by the State and Its Necessity," Dr. G. Ed. Leech;* "Professional Ethics," Dr. J. P. Laws.†

The essays were well prepared, and brought out interesting discussion. Dr. Watson was unable to attend and his essay was read by the Secretary.

On motion, it was decided to hold the semi-annual meeting at Milwaukee, subject to the call of the Secretary.

Moved and seconded that the balance of the special assessment remaining unpaid be remitted. Adjourned.

W. G. CLARK, M.D.C., *Sec.*

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

This Association assembled in Odd Fellows' Temple, corner of Broad and Cherry streets, March 3, and was called to order at 10:30 A. M., President Dr. Leonard Pearson in the chair.

---

* Will be published in the May REVIEW.

† Printed elsewhere in this issue.

At roll-call the following members responded: Doctors Adams, Allen, Benner, Bridge, Butterfield, Castor, Collins, Conard, Diemer, Farley, Fitzpatrick, J. C. Foelker, Goentner, Harger, John R. Hart, Hoffman, Hoskins, Houldsworth, Keller, Keil, Kooker, Larzelere, Lintz, Lusson, McAnulty, McClellan, Miller, Noack, Pearson, G. B. Rayner, T. B. Rayner, James B. Rayner, John B. Rayner, Rechtenwald, Rhoads, Ridge, Sallinger, Stanton, Williams and Zuill. Visitors, Dr. H. P. Eves, of Deleware, and a number of students from the Veterinary Department of the University of Pennsylvania.

The President then delivered his annual address, being a brief review of the progress our profession has experienced during the past year; the domain of the veterinarian; that the value of expert veterinary advice was insufficiently appreciated, through the lack of opportunities to draw upon the knowledge and skill of veterinarians, etc., because he has specialized to such an extent upon the diseases of the horse that his broader domain is not sufficiently recognized; spoke upon the growing importance of meat, milk and dairy inspection, etc.

The chair then annonnced that nominations for officers to serve for the ensuing year was now in order, when the following nominations were made: President, Dr. W. H. Ridge; First-Vice President, Dr. James B. Raynor; Second Vice-President, Dr. J. T. McAnulty; Third Vice-President, Dr. J. T. Farley; Treasurer, Dr. Jno. R. Hart; Recording Secretary, Dr. W. G. Benner; Corresponding Secretary, Dr. F. S. Allen. Board of Censors: Doctors S. J. J. Harger, W. L. Zuill, W. H. Hoskins, J. C. McNeil, T. B. Rayner, F. Bridge, M. E. Conard, Jacob Helmer, J. W. Sallade, Otto Noack and F. S. Allen.

A motion prevailed that the Secretary cast the ballot for nominees where there was no opposing candidate, which carried.

Drs. W. S. Kooker and James B. Rayner were appointed tellers.

The election was proceeded with, and the tellers reported the following: Censors—Harger, 21 votes; Zuill, 16 votes; T. B. Rayner, 14 votes; Bridge, 5 votes; Conard, 13 votes; McNeil, 16 votes; Helmer, 4 votes; Sallade, 9 votes; Hoskins, 22 votes; Noack, 3 votes; Allen, 1 vote.

The President thereupon announced the elected officers for the ensuing year: President, Dr. W. H. Ridge; First Vice-President, James B. Rayner; Second Vice-President, J. T. McAnulty; Third Vice-President, J. T. Farley; Treasurer, Jno. R. Hart; Recording Secretary, W. G. Benner; Corresponding Secretary, F. S. Allen. Board of Censors—S. J. J. Harger, W. L. Zuill, W. H. Hoskins, J. C. McNeil and T. B. Rayner.

Corresponding Secretary Allen then read the following applications for membership: Drs. George Jobson, Charles Falconer and A. O. Cawley.

Drs. McNeil and Timberman, of the Board of Censors, being absent, the chair appointed Drs. James B. Rayner and W. S. Kooker to fill the vacancies.

A recess of fifteen minutes was then taken, that the Board of Censors might examine the applications for membership. The Board being ready to report, the Chairman restored order and offered a favorable recommendation of Drs. Jobson, Cawley and Falconer.

A motion prevailed that each applicant shall be elected by acclamation, which was so conducted, and they were elected members of the P. S. V. M. Association.

Dr. Jobson being present, was introduced by the President, who with a few well chosen remarks thanked the Association for the honor conferred.

The Corresponding Secretary then made his report, which was received. Upon motion, was ordered to be filed.*

Dr. Hoskins eulogized upon the death of one of our members and colaborateurs, Dr. Wm. U. Custer, of Reading, Pa., and moved that a committee on resolutions be appointed to draft suitable resolutions. The motion carried, and the chair appointed Drs. W. H. Hoskins, T. B. Rayner and Otto Noack.

Dr. John R. Hart was then called upon for a report as to the condition of the treasury, which was responded to as follows:

TREASURER'S REPORT OF PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION FOR SESSION OF 1895 AND 1896.

Cr.

March 5, 1895	—Balance in treasury	$78.53
	Received from Dr. F. S. Allen, Secretary, as membership fees and dues	207.00
	Received by Treasurer as membership fees and dues	23.00
	Total	$308.53

Dr.

March 5, 1895	—For printing letter-heads	$4.45
" 6 "	—For stationery and stamps, Secretary	8.80
" 6 "	—For 1,000 letter-heads	2.00
" 6 "	—For printing programmes, letters and circulars	10.00
" 6 "	—For rent of hall, College of Physicians	20.00
Sept. 3 "	—For letter-heads, certificates, stamps, to Secretary	16.01

---

*Will be printed in full in May REVIEW.

Oct. 28, 1895	—For circulars, postals and programmes	7.75	
" " "	—To Dr. W. H. Hoskins for expenses to Dr. J. S. S. Harger	13.00	
" " "	—To Dr. W. H. Hoskins, expenses of Legislative Committee	75.00	
Feb. 10, 1896	—To Dr. Allen, Secretary, stamps, stationery and typewriting	19.99	
	Total expenditures		$177.00
March 3 "	—To balance in treasury		131.53
" " "	—Members not qualified		$133.00
" " "	—Due by members as dues		358.00
" " "	—Extra assessments		22.00
	Total		$513.00

While this is a large amount of money on the debtor side of the book, it is 32 per cent. less of an increase than the debt reported at the session of 1895. The increase in membership is 15 per cent. less than reported in the session of 1895.

The Association has a membership of 130. The collection by the Secretary for the session of 1896 has been 60 per cent. above the collections made at the session of 1895.

I would recommend that the Board of Censors go over the Treasurer's report of delinquent members and take some action as to the best method to collect the Association's indebtedness.

Respectfully submitted,
John R. Hart, Treasurer.

W. L. Zuill,
S. J. J. Harger, } Auditors.
John T. Farley,

Moved and seconded that a committee of three be appointed to audit the accounts. The chair appointed Drs. Zuill, Harger and Farley, who afterwards reported that they had examined the accounts and found them correct.

Under the heading of unfinished business, the Committee on Resolutions reported that they had forwarded a letter to Mr. Woodring, of Northampton County, but that it had not been acknowledged. The report was received and the committee discharged. Dr. Hoskins also reported the continued illness of Dr. Weber, of Lancaster, that he was still unable to attend to his duties, that the contribution of the last meeting, which amounted to about $26, was gratefully acknowledged, and that he had been removed from the hospital to the country, where he was being kindly cared for by a farmer and former client.

Dr. Harger reported the membership certificate of Dr. Williams in his possession, which was placed on the table for disposal. The chair appointed Drs. Zuill, Harger, and Kooker to investigate, with power to act.

Under the new business, Drs. Ridge and Zuill offered the following resolution:

Resolved, That Art. VII., Sec. 1, shall be altered to read: These By-Laws may be altered or amended by two-thirds of the members present at the annual meet-

ing, provided the said alteration or amendment has been proposed in writing at a previous meeting by two members, and any article or section of these By-Laws may be suspended during a single meeting by the unanimous consent of the members present, except the suspension be to vote on the alteration or amendment of the By-Laws.
W. H. RIDGE, W. L. ZUILL.

Discussion followed as to the best method to be employed to collect initiation fees and dues.

Dr. Hoskins moved that the Secretary comply with the report and recommendations of the Treasurer.

After considerable discussion, in which several participated, the motion carried.

At this stage, 1:15 P.M., a motion to adjourn for luncheon was entertained, after which all present soared to higher realms, where, through the generosity of the Philadelphia members, a bounteous repast had been provided.

AFTERNOON SESSION

was called to order by the President, Dr. Pearson.

Dr. Hoskins called up the amendment to Article V., Sec. 20, By-Laws.

Dr. Ridge favored adhering to the old rule.

Dr. Hoskins thought we had given the members ample and fair trial; that inasmuch as the members didn't respond to the Secretary's letters, while sharing the profits, he wanted the amendment enforced.

Dr. Zuill considered the action taken at the last meeting illegal, on account of the absence of a quorum; but the chair decided that the meeting was regularly called, therefore the action was legal. Dr. Zuill appealed from the decision, but the Association upheld the chair by a rising vote.

Dr. Stanton favored something more stimulating, in a literary way, to the delinquents.

Dr. Goentner considered it unfair to expel a member on account of absence at three consecutive meetings, as long as his dues remained paid, as some might be unable to attend through inability to procure a substitute.

Dr. Rechtenwalt said he would be compelled to resign if the amendment was enforced.

Dr. Hoskins thought it would be an incentive to better attendance.

Dr. Harger considered coercion to attendance a bad incentive, that the adoption of such an amendment was equal to a punishment for a personal transgression.

Dr. Zuill thought it unconstitutional, that if a member pays his dues, he is a member, and cannot be compelled to attend.

The question was finally decided by a rising vote—12 for and 16 against.

Dr. Kooker then moved that Article V., Sec. 2, be stricken from the By-Laws, which was carried as a resolution by Drs. Kooker, Zuill and Harger.

It was moved and seconded that the Association listen to report by Dr. Hoskins on the work done by the veterinary medical examiners for the State of Pennsylvania.

Discusssion followed by Drs. Zuill, Hoskins, and Rechtenwalt on the matter of false registration, examination of applicants by the Board of Examiners, insufficient remuneration for examiners' etc.

Report was accepted and ordered filed.

It was moved and seconded that the Association give the Committee on Legislation proper support in introducing and securing the passing of amendment to the Veterinary Examiners, Act favoring an increase of compensation.

The Committee on Sanitary Science and Police, owing to the absence of the chairman, Dr. Adams, was postponed until the second day's session.

General discussion on the subject of tuberculosis of cattle was in order and was opened by Dr. Pearson. He spoke on the work done by the State Live Stock Sanitary Board, the plan for procedure adopted for the present, etc. Further discussed by Drs. Bridge, Conard, Jobson, Eves, Noack, Miller.

Dr. Pearson, upon inquiry by Dr. Johnson, answered that the sanitary measures adopted to prevent the extension of the disease after once tested with tuberculin, was through cleansing with soap and hot water, afterwards spraying with a 1-1000 solution of bichloride of mercury, with the addition of sunlight and ventilation.

Dr Zuill again claimed tuberculin not infallible, as it would give reactions in diseases different from tuberculosis.

Dr. Hoskins thought that the dairymen ought to be more careful as to personal cleanliness.

Dr. Miller favored regular systematic cleaning, with sunlight and ventilation and regular exercise.

Dr. Eves believed in dairy as well as milk inspection, where the former is inadmissable.

It was moved and seconded that the discussion close. Carried. The meeting then adjourned at 5:10 P.M., and this closed the first day's session.

SECOND DAY'S SESSION.

Called to order at 10:15 A.M. by President Pearson, with the following present at roll call: Drs. Allen, Benner, Collins, Conard, Felton, Fœlker, George, Goentner, Good, Hart, Harger, Hartman, Helmer, Houldsworth, Keely, Knight, Keil, Kooker, Larzelere, Lintz, Lusson, McAnulty, McClellan, Michener, Miller, Moyer, Nicholson, Oyler, Pearson, G. B. Rayner, T. B. Rayner, Jas. B. Rayner, John B· Rayner, Rechtenwalt, Reinhart, Rhoads, Ridge, Ross, Schreiner, Senseman, Stanton, Timberman, Turner, Williams, Zuill.

The President called upon the chairman of Committee on Sanitary Science and Police for their report, to which Dr. Conard responded, he reporting outbreaks of glanders, tuberculosis, hog cholera, the usual influenza, strangles and epizootic abortion, which he considers the cause of more loss to dairymen than that of tuberculosis.

Report of committee was received and ordered filed, and the committee discharged.

Report of Committee on Legislation by Dr. Hoskins then followed. Report was accepted, upon motion, and ordered filed, and committee discharged.

It was moved by Dr. Kooker, and seconded by Dr. T. B. Rayner, that a vote of thanks be tendered Dr. Hoskins for his valuable services rendered in the interest of the profession, which was carried unanimously by a rising vote. Dr. Hoskins in a few well-chosen remarks thankfully accepted the offering.

The discussion that followed was participated in by Drs. Goentner, Conard, Harger, Zuill, Rechtenwalt, Michener, Jobson and Hoskins.

Dr. Hoskins spoke upon the measures adopted for the prevention and spread of abortion by local irrigation through the means of overhead tanks filled with bichloride of mercury solution, also injection of carbolic acid solutions.

Dr. Goentner had used vaginal injections of antiseptics and fumigations, and had not had a recurrence; he believed in the injection of one to two ounces of a 2 per cent. solution of carbolic acid; after a second injection he has not had abortion.

Dr. Conard knew cases where herds have been inoculated by the male during coition.

Dr. Harger favored an injection of a 2 per cent. solution of carbolic acid, five injections, one every two weeks.

Dr. Zuill said that carbolic acid was effectually used in England about two years ago.

Dr. Conard asked whether an abortion by injury could form a nucleus for the spread of the disease. His manner of treatment was almost similar to Dr. Harger's; he uses 2½ per cent. solutions and makes about six injections, never had a case following the second injection, with two exceptions.

Dehorning was spoken of as a factor in the production of abortion. Dr. Conard favored dehorning as it will lessen the trouble. Dr. Michener said it would run its course, but he believes in disinfection; we should not claim too much for the injection of carbolic acid solutions. The discussion was then closed.

Next in order was the reading of essays and communications. Paper on the "Pleasure of Being a Veterinarian," by Dr. J. C. Michener; Dr. J. B. Rayner on "Osteoporosis"; "Pathogenesis and Development of Disease," by Dr. W. L. Rhoads.*

The papers abounded with valuable suggestions and were enjoyed by all present.

Dr. Zuill being called upon for his description of the operation of "cunean tenotomy," responded; he believes in removing as much of the tendon as possible through about an inch and a half long vertical incision; by that method he cures about 90 per cent., about 5 per cent. partially; where there is no ulceration of the articular surfaces, cure is almost certain; if it does not cure it does not alter the action or function of the part.

Dr. Harger gave a description of the operation of median neurectomy; after briefly reviewing the anatomy of the part, he spoke of the patients who would be benefited by the operation, also spoke of the danger and results following the operation.

Dr. Pearson spoke on the use of barium chloride as a prompt cathartic by intravenous injection; he uses about sixteen grains to two drachms of distilled water.

Papers and description of operations discussed by Drs. Kooker, Hoskins, Michener Lusson, Conard, Williams, Goentner, Miller, Ridge, Rechtenwalt, Helmer, Harger and Eves.

The essays, communications and descriptions of operations were, to say the least, exceedingly edifying and enjoyed by all present.

Dr. C. H. Magill handed in his resignation as a member of the P. S. V. M. Association. Dr. Hoskins moved that it be laid over until the next meeting. Carried.

Dr. Wm. Atkinson, editor and publisher of "The Public Health," asked for the proceedings of this meeting which, upon motion, were ordered to be furnished.

---

*These papers will be published in the REVIEW as soon as possible.

Dr. Hoskins, Chairman of the Committee on Resolutions, then offered the following which were adopted:

We, your committee, have had placed before us the Army Bill as at present pending before Congress, [Bill read.] We believe that this measure is a much needed one and we most heartily recommend that this Association indorse this measure and urge upon its members the most earnest support to insure its passage.

WHEREAS, It has pleased Almighty God in His wise dispensation to remove from our midst our late member, Dr. W. U. Custer, be it

Resolved, That while we bow humbly to His will, we feel keenly the loss that has fallen to our lot, for in our late member we had one devoted to his calling, an earnest member of this organization, and a man honored and respected by the whole community in which he resided; and further be it

Resolved, That a copy of these resolutions be spread upon the minutes of our Association, a copy sent to the family of the deceased, and to the several veterinary journals.

WHEREAS, A number of diseases afflict the domestic animals of this State that have never received the careful scientific study that is necessary to discover their causes and the methods to be employed in preventing and treating them, and especially so-called cerebro-spinal meningitis of horses, osteoporosis, abortion of cattle, the diseases of fowls, etc., etc.

WHEREAS, Many of the questions involved in a study of these diseases can only be solved by co-operation between the practitioners who are brought in contact with them and an investigator who has superior facilities for research; and,

WHEREAS, It is of great importance to the public and the live stock industry of this State that the above mentioned and other diseases should be carefully studied, be it

Resolved, That the State Live Stock Sanitary Board is hereby requested to direct the State Veterinarian to cooperate with veterinarians and others of this State who have had experience with these imperfectly understood diseases and arrange to conduct investigations with a view of discovering their causes and the means to be employed in preventing and curing them; and be it further

Resolved, That a copy of these resolutions be forwarded to the President of the Live Stock Sanitary Board.

WHEREAS, At the last session of the State Legislature, said body created the Department of Agriculture, that the work falling in this line should be carried on more efficiently and effectively, and be it

Resolved, That we heartily concur in the creation of this Department, because we believe much more valuable services can thus be rendered through well established departments, with heads where responsibility of the work may be better fixed, where there may be hearty co-operation of the several lines of work, now placed under the control of this department, and which are so closely allied, as to lose much of their value when under widely scattered Bureaus or Boards.

Dr. Hart moved that our next place of meeting be at Reading at a time after the meeting of the United States Veterinary Medical Association. Carried.

Dr. Hart also moved that the Legislative Committee be instructed to present to the next legislature an amendment providing for an increase in the examination fee for veterinary surgeons from $10 to $20. Carried.

The retiring President then introduced the President-elect, Dr. W. H. Ridge, and the latter on taking the chair thanked the members of the Association for the honor conferred. The other officers-elect were then severally introduced and accepted the new duties assigned to them.

Dr. Pearson announced that Dr. Hoffman had a specimen, the heart of a pig, and also an instrument that he would exhibit at the Veterinary Department of the University of Pennsylvania, at which place Dr. Hoskins announced we would adjourn now to meet this afternoon.

Dr. Hart spoke upon the grand success of this meeting, and hoped that future meetings would not be recorded as less enthusiastic. He said it was the best meeting he had experienced for five years.

President Ridge then announced the names of standing committees for the ensuing year:

Committee of Arrangements:—Drs. W. S. Kooker, John Hart, Otto Noack.

Committee on Legislation:—Drs. Jno. R. Hart, Leonard Pearson, S. J. J. Harger, J. C. Fœlker, J. C. Michener, T. B. Rayner, Chas. Goentner.

Committee on Sanitary Science and Police:—Drs. Leonard Pearson, Chas. Schauffler, W. H. Knight, P. M. Minster, C. R. Good, M. E. Conard, Otto Noack.

Committee on Intelligence and Education:—Drs. W. L. Zuill, Robt. Gladfelter, Chas. Williams, M. J. Collins, J. W. Sallade.

Upon motion, we adjourned for luncheon, to meet at the Veterinary Department of the University of Pennsylvania at 2.30 P.M.

AFTERNOON SESSION.

At the Veterinary Department Hospital, in the operating room for horses, was witnessed the operation of cunean resection by Dr. Zuill, who operated both in the standing and recumbent positions. He removed sections of both tendons.

On the same subject Dr. Harger removed a portion of the median nerve, or median neurectomy, both operations being dexterously performed.

Dr. Pearson then demonstrated the use of barium chloride, but owing to the fact that the subject had been similarly experimented on by the students, he seemed to have tolerance, it failing to produce results; but an injection into the vein of another produced happy results.

Dr. Hoffman then exhibited an interesting specimen, heart of a pig, also an instrument to facilitate the operation of ovariotomy in cows or mares.

The instrument is original with him, and promises advantageous results over the "ecraseur." Upon request he demonstrated the use of the instrument on a mare, extirpating the right ovary. He says he has operated on a large number of mares and cows without fatalities.

Dr. Hoskins gave his experience on the use of ethyl chloride as a local anæsthetic, he preferring it to cocaine for minor plastic operations.

Adjourned. W. G. BENNER, *Recording Secy.*

NORTH DAKOTA VETERINARY MEDICAL ASSOCIATION.

The fourth annual meeting of the North Dakota Veterinary Medical Association convened December 4, 1895, at the Hotel Dakota, Grand Forks, N.D. The following members responded to roll-call: Doctors Taylor, Turcott, Crewe, La Pointe, Shepperd and Hinebauch. The visitors present were Doctors Miller, O'Connor and Graftegraph.

The morning session was taken up principally with the report of the treasurer and secretary, and the reading of a paper by Dr. Hinebauch on the use of electricity in the practice of veterinary medicine and surgery. The paper was discussed at considerable length, a number of the veterinarians present having previously assisted the writer in diagnosing several cases of difficult lameness by means of the battery.

The afternoon session was opened by the president's address, and followed by another paper on the subject of millet disease in horses. This paper was a continuation of the one presented two years previous. In the discussion which followed, Dr. Turcott remarked that he had been somewhat skeptical regarding the influence of millet as a disease-producing food. He said that the evidence of the experiments, however, convinced him that millet had more or less of an influence in the producing of pathological conditions.

The Society is in a very healthy condition, having now a total membership of twenty. There are but twenty-one graduated veterinarians in the State, hence we think we can boast of a larger percentage of membership than possibly any other State society.

The Society can congratulate itself upon being able to have a law passed at the last session of the legislature which hereafter will practically control the practice of veterinary medicine and surgery in the State. Although the law was not all the Society wished, yet it was all that we could expect to have passed. The Legislature was thoroughly canvassed as soon as it had been elected, and we could not do better than to have the present law passed, which is as follows:

Sec. 1615. *Qualifications of Veterinarians.*—Each person practicing veterinary medicine, surgery, or dentistry in any of its departments in this State shall possess the qualifications required by this article ; provided that any person who has practiced veterinary medicine, surgery or dentisty as a profession in this State for three years immediately preceding the passage and approval of this article, and who shall be a citizen of the United States, or shall have declared his intention to become such, shall be deemed eligible to registration, and shall receive a certificate upon presentation of a sworn affidavit and letters of recommendation from five reputable freeholders in his locality, or upon presentation of a diploma from a legally authorized veterinary school, college or university, if made before July first, 1895.

Sec. 1616. *Board of Examiners, How Appointed; Term.*—The governor shall appoint a board of examiners within thirty days after the passage of this article, to be known as the State Board of Veterinary Medical Examiners. Such board shall consist of three practicing veterinarians, who shall each be the holder of a diploma granted by a legally authorized veterinary school, college or university, who shall hold office one for one year, one for two years, and one for three years, after such appointment, or until their successors are appointed. Thereafter each year the governor shall appoint one member of said board to fill the vacancy occasioned by the expiration of the term of office of those previously appointed, and is further authorized to fill such vacancies as may occur.

Sec. 1617. *Organization of Board.*—Said board shall elect a president, secretary and treasurer. It shall have a common seal, and the president and secretary shall have power to administer oaths. Said board shall hold meetings for the examination of candidates on the second Wednesday of April and October of each year, and such other meetings as may be deemed necessary, at such time and place as the board may appoint, no session to exceed two days. The board shall issue a certificate of qualification to all applicants who shall pass the required examination, and who shall be citizens of the United States, or shall have legally declared their intention to become such, and to all applicants who are eligible to registration under section 1615, signed by the president and secretary of the board. Such certificate or diploma shall be conclusive as to the right of the lawful holder of the same to practice veterinary medicine, surgery or dentistry in this State. Said board shall keep a record of all the proceedings thereof, and also a record or register of each applicant for a license, together with his age, name and time spent in the study and practice of veterinary medicine, surgery or dentistry ; and if a graduate, the name and location of the school, college or university granting such diploma. Said books and records shall be *prima facie* evidence of all the matter therein recorded.

Sec. 1618. *Permit to Practice.* — Any person wishing to practice veterinary medicine, surgery or dentistry, who is qualified under section 1621, may apply to the president of the Board of Examiners for a permit to practice. The president shall, upon payment of five dollars, if satisfied that the applicant is qualified and a suitable person, issue to him a permit to practice until the next meeting of the Board of Examiners.

Sec. 1619. *Diplomas and Certificates.*—Persons presenting diplomas or certificates for registration shall pay to the treasurer of said board a fee of ten dollars in advance; and the fees received by said board shall be paid over to the State treasurer within thirty days after receipt of same. Said fees shall constitute a special fund for the payment of the expenses of said Board of Examiners. Each member of said board shall receive from the State treasury all necessary traveling expenses actually incurred in attending such meetings. The secretary of the board shall certify to the State auditor after each meeting of the board the amount due each member for necessary expenses of the board. The State auditor shall thereupon issue his warrant on the State treasurer for such sum, provided there has been a sufficient amount paid into the treasury in fees to redeem said warrants ; but if there is not an amount equal to said certified expenses to the credit of such fund, he shall issue his warrant for the amount in the said special fund, and deficiencies in the payment of said expenses may be made up from subsequent receipts.

Sec. 1620. *Misdemeanor to Practice, Etc., When.*—Any person who either :

1. Practices veterinary medicine, surgery, or dentistry in this State without compliance with the provisions of this article ; or

2. Willfully and falsely claims or pretends to have or hold a certificate of registration issued by such board ; or

3. Wilfully and falsely, with intent to deceive the public, claims or pretends to be a graduate of, or to hold a diploma granted by a legally authorized veterinary school, college or university, is guilty of a misdemeanor, and upon conviction is punishable by a fine of not less than fifty nor more than one hundred dollars, and in case of non-payment of such fine, the person so offending shall be liable to imprisonment for a period not exceeding six months. All fines received under this article shall be paid into the common school fund of the county in which such conviction takes place.

Sec. 1621. *Examination.*—All persons commencing the practice of veterinary medicine, surgery or dentistry in this State after the passage and approval of this act, shall be graduates of a legally authorized veterinary school, college or university, and shall subject themselves to such examination as the board may require.

Sec. 1622. *Certificates Recorded.*—Every person holding a certificate from the Board of Examiners shall have it recorded in the office of the Register of Deeds in the county in which he resides within thirty days after the date of said certificate, and the record shall be indorsed thereon. Any person removing to another county to practice shall record within thirty days the certificate in a like manner in the county to which he removes, and the holder of the certificate shall pay to the Register of Deeds a fee of one dollar for making the record.

Sec. 1623. *Gratuitous Services.*—Gratuitous service in cases of emergency in the dehorning of cattle, or castration of animals, shall not be construed as coming within the meaning of this article.

Sec. 1624. *Witnesses. Expert Fees.*—Any person complying with the provisions of this article shall be entitled to expert fees as a witness in all civil actions relating to the veterinary profession.

T. V. HINEBAUCH, *Secretary.*

CONNECTICUT VETERINARY MEDICAL SOCIETY.

A meeting of this society was held at the office of Dr. James Kelly, in New Haven, Conn., on the evening of March 10, 1896. In the absence of President Bland, Dr. Ross, of New Haven, called the meeting to order. The following members answered to roll call: Drs. Ross, Whitney, Kelly, Potter and Isaacs, of New Haven; Gardner, of Hartford; Beckley, of Meriden, and Eliot, of Ansonia. Drs. Lyman, of Hartford, and Martin, of Bridgeport, were present as guests.

After reading the minutes of the last meeting, Dr. Gardner entertained the members with an interesting paper, telling what was being done by the Connecticut Cattle Commission with bovine tuberculosis. A discussion was entered into by Drs. Lyman, Beckley and Ross.

Applications for membership were received from Dr. Ingraham, of Hartford, a graduate of the Ontario Veterinary College, and Dr. Lyman and Dr. Martin, both graduates of the Veterinary Department of Harvard University. The next meeting will be on the afternoon of June 2, at the office of Dr. Thomas Bland, in Waterbury.

H. W. ELIOT, *Secretary.*

MONTREAL VETERINARY MEDICAL ASSOCIATION.

A regular meeting was held in the library of McGill University, Thursday, January 23, Dr. Chas. McEachran presiding.

The reading of the minutes of the last meeting and the transaction of business arising out of the same being over, the report of the Experiment Committee was called for. The chairman of the committee reported progress, and Messrs. McCarry and Higgins were appointed to act until the next meeting.

Mr. J. A. Ness furnished an interesting case report and exhibited a peculiar looking specimen from the uterus of a cow. It consisted of a band of fibrous tissue about ten inches in length, the presence of which in the uterus had given rise to symptoms simulating labor pains. Sections had been prepared and were shown under the microscope evidencing the fact that the growth was composed of fibrous tissue only. Dr. McEachran was of the opinion that the band was a sequel of a previous parturition in which some lacerations had occurred. He had frequently found similar growths in the vagina, arising from apparently the same cause, and which were in many cases a mechanical obstruction to delivery.

Mr. J. J. McCarry read an instructive paper on "Post Mortems," describing in an entertaining manner the methods to be followed in conducting autopsies. This led to considerable discussion on the part of the members, during which were pointed out the precautions necessary when death had occurred from a disease of a contagious nature.

Dr. McEachran referred to the careless and consequently unsatisfactory manner in which post mortems are frequently conducted, and mentioned the fact that the only English work on the subject is that by Dr. Clement, of the class of '83.

The essayist for the next meeting was notified, and adjournment took place.

A well attended meeting was held in the Library, Thursday evening, Feb. 6, with the President, Dr. M. C. Baker, in the chair. The minutes of the previous meeting were read and approved. The librarian, Mr. J. A. Ness, reported the addition to the library of several new works.

Mr. Chas. H. Higgins, on behalf of the Experiment Committee, reported progress and requested an extension of time to furnish a report, which was granted.

Mr. J. J. McCarry reported an interesting case which had recently come under his observation. The subject was a horse, which, two years ago, as the result of a boiler explosion, had been blown through the doorway of a building, but was not at the time thought to have sustained any very serious injury. Shortly afterwards he developed a fistula above the point of the shoulder. A seton was inserted and the animal put to pasture. For a time recovery appeared to have taken place, but later the symptoms returned, and last December an operation resulted in the removal of a rivet-head about three-quarters of an inch in diameter from under the levator humeri, where it had probably lodged at the time of the explosion. The animal made a good recovery and is now working daily.

Mr. E. H. Morris read an excellent paper on "Hæmoglobinuria," which, it was stated, is not a disease of the kidney, but under the influence of various causes a secondary nephritis may accompany it. The symptoms, pathology, sequelæ and treatment were each in turn thoroughly described. One case, that of a mule, was instanced, that was peculiar in that the muscles of the shoulder were the ones affected.

The discussion following was mostly concerned with the treatment of the disease, and after further remarks by the chairman the meeting adjourned. HARRI H. DELL, *Sec. Treas.*

TORONTO VETERINARY COLLEGE MEDICAL SOCIETY.

The semi-weekly meeting of the Veterinary Medical Society took place in the lecture room of the college on Friday evening, March 13th, Prof. Smith presiding. Mr. G. R. C. Merriam, of Jamaica, read a carefully prepared and excellent essay on the subject of contagious pleuro-pneumonia in cattle, tracing the early history of the disease, its spread, and loss sustained by agriculturists in many countries where the disease existed. Mr. Merriam also fully explained the more recent investigations and experiments of Arloing, in relation to the bacillus just described by him (pneumo-bacillus liquefaciens bovis).

Mr. James A. Stevenson brought the subject, "Infectious Diseases of the Ox," before the meeting. His essay was an elaborate, interesting, and very perfect description of the more common infections of cattle.

Mr. A. E. Williamson, of Queenstown, Ireland, addressed the meeting on the value of eserine in many of the digestive disorders of the horse, pointing out such cases as were effectually relieved by its use. He also pointed out those cases where its use is contra-indicated.

Mr. Wilson read a paper on "Laminitis," and treated his subject in a very able manner.

The communications were selected by Mr. Le Gen, and Mr. L. F. Wingate.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular meeting of this association was held at 19 Boylston Place, Wednesday, February 26th, at 8 P.M.

Dr. Parker, the President, in the chair.

The following members were present: Drs. Beckett, Blackwood, Bunker, Burr, Cronan, Emerson, Hamilton, Lewis, LaBaw, Osgood, Parker, Pierce, Rogers, Sheldon, Winslow, Winchester and McLaughlin. Honorary member, Dr. Stickney.

Minutes of last meeting were read and accepted, after Dr. Burr had corrected his statement in regard to tuberculin, having it read "good" instead of "reliable."

The Secretary called the attention of the association to the fact that the election of Drs. Frothingham and Cannon were illegal, not having been before the association the length of time prescribed by the constitution. Dr. Osgood then moved that we again ballot on these names; carried; and they were unanimously elected.

Cases reported:

Dr. Pierce reported case of mare, six weeks in foal, having dizzy spells when first starting on a drive; would have only one attack. After removing overdraw check from harness there was no more trouble.

Dr. McLaughlin reports interesting case, as history is well known. Cow calved and cleaned all right a little over a year ago, following which she had a number of attacks of supposed indigestion. Last calf came two weeks before time and inside of one week showed dropsy of legs and abdomen. Diagnosed foreign body in heart. Autopsy showed wire three inches long through right auricle at apex. Abscess at point of entrance of wire.

Dr. Burr saw in a post mortem case the track of a wire from the second stomach to the pericardium; fluid and the wire in the pericardial sack.

Dr. Emerson saw a cow that had been fed on lawn grass. Had a number of attacks of supposed indigestion, but finally died, and a nail was found in the pericardium.

Dr. Beckett had a large horse with peculiar, sudden lameness; would point and rest on outer toe; no soreness in foot or at any point. Diagnosed possible paralysis.

Dr. Burr reported similar case that Dr. Bryden had.

Dr. LaBaw had similar case. Horse had been cast. On attempting to rise, failed. Rolled him over and he got up, but was unable to support body on that leg.

Drs. Bunker and Parker reported undesirable effect from calomel. Swelling of lips, tongue and profuse salivation.

HOWARD P. ROGERS, M.D.V., *Secretary.*

COMMUNICATIONS.

THE U. S. V. M. A. PRIZE.

BROOKLYN, Feb. 12, 1896.

Editor American Veterinary Review:

DEAR SIR:—Your editorial comments in this month's REVIEW on Dr. Tait Butler's report as Chairman of the Prize Committee will meet with the approval of a large majority of the members of the U. S. Veterinary Medical Association.

You say that you hope his conclusions, that the prize be discontinued for a few years at least, will not be accepted, but on the contrary, the national body, in its wisdom, will adopt measures to encourage the competition and keep up its offer of a prize for the best paper presented.

I have been a member of a Prize Committee for the past eight years, and so disgusted was I with the non-action of the various chairmen during that time, that when the President of the Association again asked me to become a member of the said committee I positively declined, unless the chairman was to be a live and energetic one. Upon these conditions I consented to act; but, to my surprise, Dr. Butler was as dead as his predecessors, until he suddenly seems to awaken to the fact that he should do something, when he immediately acts upon his conviction, and "through a misunderstanding of his own," utterly neglects to notify the members of his committee as to his revelation. He neither directly nor indirectly communicated with me as to what should or should not be done, and I must say that I read, with much surprise, his one-headed report at the last meeting of the Association. For what purpose is a committee appointed, if not to act in conjunction with its chairman? One would feel surprised that so prominent a member of the profession as Dr. Butler would so far neglect the important duties of a chairman. He unsparingly and justly condemns previous presidents of this committee for non-action, while he presumes to bring this recommendation before the Association without even offering to the members of his committee the courtesy of a voice in the matter. Surely, in this case we are confronted with the two extremes. I, having been one of this committee for several years, am in position to know that the miscarriage of its object has been entirely due to the comatose condition of the various presidents of the same.

One of the fundamental objects of our Association is to disseminate scientific knowledge amongst its members, and if the offering of this prize aids in that object, why withdraw it? It cannot be owing to the anæmic condition of our exchecquer, as those competing do so more for the honor than the money value of the prize; although the money value seems to have been highly beneficial at a critical moment to others.

Fortunately, our chairman's recommendation must be acted upon at our next annual meeting before final adoption, when I trust it will receive the consideration it deserves.

Yours truly, L. McLean, M.R.C.V.S.

Washington, C. H., O., April 1st, 1896.

To the Veterinarians of Ohio:

Any veterinary surgeon who desires to know if any veterinary practitioner is illegally practicing in any part of this State, can receive the information by addressing the Secretary of the State Veterinary Association, as he has been furnished with a list of all those who have passed the examination prescribed by Ohio law.

The next meeting of the Ohio Veterinary Examining Board will be held in Columbus, April 14th, 1896, and it is hoped that all recent graduates and all those entitled to examination will avail themselves of the opportunity and obtain their certificate.

W. H. Gribble, *Sec'y O. S. V. M. Association.*

THERAPEUTIC RECORDS.

Preventive against Tapeworm in Dogs.—Chloroform, 4 grammes; croton oil, 1 drop; glycerine, 30 grammes; mix. This preparation, administered in one dose, will do well for days; it contains the vermifuge and the purgative.

Against the Eczema of Dogs.—The following are recommended by Arnous in this troublesome affection: 1st.—Powder: Burnt magnesia and starch, of each, 10 grammes; mix, and apply locally. 2d.—Ointment: Liquid pitch and soap of potash, of each, 50 grammes; alcohol, q. s.; make a liniment and apply locally.

Veratrine against Acute Mammitis.—Mr. Detcherers recommends the hypodermic injections of veratrine in the treatment of acute attacks of mammitis in cows. The results that he has attained are most satisfactory, producing an abortion of all the acute symptoms in a short time, without having recourse to any other local applications. The solutions are made as follows: Veratrine, 40 centigrammes; alcohol at 90°, 5 or 6 grammes. This in injected five or six times, at seven or eight minutes apart. The injections may be repeated if a second congestive process manifests itself.—*R. de M. V.*

NEWS AND ITEMS.

THE CATHODE RAYS.—Dr. Edmund E. King, of Toronto, gave an address in the lecture hall of the Ontario Veterinary College to the students on Thursday evening on the new photographic process, called the "cathode rays." His explanations of the method, which he demonstrated by the use of apparatus, were exceedingly clear, and were warmly appreciated. He said that it was more correctly called the "X rays," and that it differed from photography in representing the shadow, rather than the image or figure itself. That flesh, wood, leather, and some other substances could be readily penetrated by the "rays," while bone and some metals were impenetrable. Therefore, the bones within the body of a man or animal could be readily examined by this method. The "X ray" is, without doubt, destined to be of inestimable benefit to science in the near future.

SANMETTO.—This preparation, which is a blending of "saw palmetto" and "true santal," has recently been brought prominently before the veterinary profession as a stimulating remedy for diseases of the genito-urinary organs. In a neat pamphlet, issued by the manufacturers, Od Chemical Co., 15 Cedar St., New York, is contained many certificates from veterinarians bearing witness to its remarkable results in affections of the bladder, kidneys, and urethra, as well as for pre-senility in stallions and dogs. Sample bottle mailed free to veterinary surgeons. See their advertisement.

A CHANGE FOR THE BETTER.—The New York County Veterinary Medical Association at its last meeting decided to change its meeting place to the Academy of Medicine, which at once lends dignity and independence to its deliberations, and is better in very many other respects.

MORE VIRGINIA VETERINARY LAWS.—The profession in Virginia is accomplishing much in the way of legislative recognition. In addition to the law regulating practice in that commonwealth, printed elsewhere, the State assembly has approved "An act to provide for the protection of domestic animals, and to authorize and empower the board of control of the experiment station of the Virginia Agricultural and Mechanical College at Blacksburg to establish live stock quarantine lines, rules and regulations, and to prescribe penalties for violating the same."

FRENCH APPROPRIATIONS TOWARDS VETERINARY SURGEONS.—The allowances made by the government for the support of the three Veterinary schools in France, amounts to the round sum of 1,576,950 francs, about $315,390.

ABNORMAL FECUNDITY IN A COW.—A Norman cow died three weeks before calving. At the post mortem, the uterus was found to contain six calves, four males and two females, all in good condition and well formed. Altogether they weighed 108 kilogrammes, over two hundred pounds.

MONUMENT TO PASTEUR.—An international subscription for the monument to Pasteur upon one of the squares in Paris is started by a committee composed of members of the Council of the Institute Pasteur. The subscription can be addressed rue Dutot 25, in Paris.

HONOR TO DIRECTOR DEGIVE.—The eminent director of the Brussels Veterinary School, late president of the Academy of Medicine of Belgium, has been made Officer of the Order of Leopold, one of the highest honors in Belgium.

STERILIZATION OF TUBERCULOUS MEAT IN BELGIUM.—Tuberculous meat of animals in good, fat condition, by a ministerial order, shall be admitted to general consumption after being submitted, under the directions of a veterinarian, to an average temperature of 116°C. for three hours at least, in a sterilizing apparatus accepted by the government.

A RECENT LETTER from that Nestor of veterinary medicine, Jno. C. Meyer, Sr., of Cincinnati, shows that while advancing years have precluded his active participation in the events that are transpiring, his interest in them is as acute as in years gone by. May his sun continue to shine for many years, and spread its glorious lustre as of yore.

NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.—The next meeting of this association takes place the first Tuesday in May—quarterly instead of monthly, as heretofore.

"THE HORSELESS AGE."—People whose memory antedates the steam engine as a means of popular transportation, say that its invasion and the displacement of the stage coach caused a greater stir among breeders, and others interested in the horse, than the competitors which that animal has recently acquired in the electric motor, the bicycle and the much-flaunted horseless carriage has recently produced. The horse increased in numbers almost as rapidly as railroad tracks were laid, and he will outlive the present depression in the same manner. The *American Horse Breeder* had an interesting statistical article to this effect in its issue of March 3d.

THE VETERINARIAN'S FUTURE.—Apropos of the recent meeting of the Pennsylvania State Veterinary Medical Association, a writer in the *Turf, Field and Farm* says:—" It does, however, seem, notwithstanding the plaudits of the meeting, the lot of the practicing veterinarian is by no means a desirable one. With the diminishing use of the horse, low prices and increasing intelligence of the people, and flooding the country with prepared nostrums, the veterinarian is bound to find his field or future operations a circumscribed one indeed, and he has our sympathy," which simply shows that the writer of that paragraph is not sufficiently acquainted with his subject to know that the veterinarian's future calling is an expanding rather than a contracting one.

HIGH-PRICED CANINES.—Senator Wm. H. Reynolds, of Brooklyn, N. Y., purchased at the late Westminster Kennel Club Show, at Madison Square Garden, the champion St. Bernard dog Otos, and his young son, Hellgate Defender, paying for them $4,000 and $2,500 respectively.

MEMBERS who desire to present papers before the U.S.V.M.A. at Buffalo, in September, should at once notify the Secretary, Dr. S. Stewart, of Kansas City, Kansas. The programme will be made up and placed in the hands of the membership at the earliest possible date.

AT A SPECIAL Civil Service examination held in Kansas City, March 10th, six veterinarians took the examinations for the position of meat inspector, about 40 men for the office of live stock examiner, and 10 for tagger.

FREE VETERINARY SERVICE.—The following advertisement was in the *New York Herald* of Sunday, March 8th. : " Horses insured against death by disease or accident. Free veterinary service and medicines furnished. (N. Y. Vet. Hospital Service for N. Y. City.) Prominent Veterinarians for all other points. $30,000 paid for losses in New York City. Reserve Fund Live Stock Insurance Co., Lincoln Building, Union square, N. Y. City. Write for particulars."—The moving spirit of the New York Veterinary Hospital is now under charges before the New York County Veterinary Medical Association. A man of standing who becomes the insurance " free doctor," does a great injury to honest practitioners, and brings a boomerang upon himself.

A. V. C. COMMENCEMENT NOTES.

When you're called to make an appointment
Don't forget to take that ointment,
Made of wax and Spanish fly,
Rosin and euphoribii,
Olive oil and nigræ pix.
Hurrah for the Class of '96.

The above is the college cry of the Class of '96 of the American Veterinary College, composed by one of its members and taken from the College Blister given them by the instructor in prescription writing.

THE Alumni Association have nominated the following gentlemen for the Alumni Trustees: Drs. Wm. Herbert Lowe, of N. J., L. H. Howard, of Mass., and C. Burden, of New York County.

THE 21st Annual Banquet of the Alumni Association of the American Veterinary College, held March 25th, at Clark's, was a grand success in every particular, some fifty members being present.

PROF. A. F. Liautard sent a cablegram from Paris wishing the Class of '96 success, and best wishes, and life to the A. V. C.

DR. L. H. Howard, of Boston, was elected President of the Alumni Association of the American Veterinary College.

DR. W. B. E. Miller, of Camden N. J., has been duly elected a permanent Trustee of the American Veterinary College.

THE address delivered by Prof. J. W. Dowling, M. D., at the Commencement Exercises at Chickering Hall, deserved the applause it received.

PROF. J. J. Harger, of the University of Penn., and Prof. H. D. Gill, of N. Y., were present at the Commencement Exercises and the Banquet.

F. X. T.

COMMUNICATIONS RECEIVED.

Communications are acknowledged from the following: W. F. Derr, V.S., Jno. M. Parker, D.V.S., E. L. Morgenroth, M.D.C., J. R. Kelso, D.V.S., E. P. Niles, D.V.M., T. W. Watson, V.S., H. D. Fenimore, D.V.S., F. C. Williamson, V.S., W. V. Beesit, D.V.S., W. E. Smith, D.V.S., Robert Robb, V.S., James A. Waugh, V.S., J. C. Michener, V.S., F. S. Allen (2), D.V.S., W. L. Rhoads, D.V.S., Robt. W. Ellis, D.V.S., W. H. Curtiss, D.V.S., Harri H. Dell, W. H. Gribble, D.V.S., Ch. Marchand, and several others.

AMERICAN VETERINARY REVIEW.

MAY, 1896.

EDITORIAL.

THE PROFESSION IN ILLINOIS.—One State after another has been added to the list of those securing legislative enactments for the protection of the public and the legitimate practitioners from the imposition of pretenders and frauds, who not only beguile the people of their money without adequate return, but do the honest members of the profession a great deal of harm by destroying confidence in and producing contempt for the profession as a whole. It is, therefore, of the most vital importance that each State should have enacted laws which shall limit this class of empirics and charlatans as much as possible—checking their propagation, at least—to the end of obtaining in time their utter extinction. It is not the competition of such men from a dollars-and-cents point of view that the veterinarian need fear so much, as the degradation and contempt which they heap upon the profession by their acts of rascality and their exhibitions of ignorance, producing in the minds of those who should be believers in the dignity and nobility of a learned science distrust of the whole body without making the distinction of qualification. Then if it be recognized that such legislation is essential to the life, the progress, and the perpetuation of the veterinary profession, the next thing to be sure of is that such legislation be secured. Every State which acknowledges the existence of a profession of veterinary medicine has her association, and these associations have performed the duties of drawing the veterinarians together for purposes of education, fellowship and mutual protection. They are, then, the proper functionary to propound laws to be presented to the legislators for enactment, and, with few exceptions, wherever they have done so in that spirit of earnestness which characterizes the majority of them they have been successful. Where there are among the membership a few men who make it their business to lead such movements, giving time, energy and activity to it, spurring the others on and forcing enthusiasm by personal precept—backed by a determination to succeed—failure has rarely been the sequel. Where, however, the extent of the energy consists in preambles and resolutions, letters in lofty patriotic style, and bills which once introduced reach the committee-room and there remain under the hypnotic influence of a lack of energy in the profession to arouse it by the righteous demands of its members, there can scarcely be any other result than failure. The example set by the State Association of Virginia, as described in the April REVIEW, is worthy the consideration of all veterinarians in the States having in contemplation the introduction of bills looking to the fostering of veterinary interests. If the reader can point to a field presenting less promising rewards than the State referred to he will have to go beyond the limits of the Union; and yet their energetic State Association not only forced their protecting laws through the Senate and House of Delegates, and had another bill passed establishing quarantine lines, rules and regulations, and prescribing penalties for the violation of the same, but they are now getting ready for dairy inspections, and when this is accomplished will be seeking new methods of benefitting the public and themselves.

It would scarcely seem within the pale of possibility that there could be one of the great States of the West still groping along without a law on her statute-books to indicate that the profession of veterinary medicine existed within her borders. Much less would one conceive the idea that, if such instances really exist, that the great State of Illinois would be found among that class. With her vast live-stock interests, with her great cities, her army of graduated veterinarians, it is incredible that such a condition maintains. Inexplicable as it may seem, "it is a condition and not a theory." A study of the situation will not fail to give the proper explanation of the causes of the backward condition of the profession in that State. It lies in the State Association, which is far from the influential and powerful body of veterinarians that it should be. It cannot be truthfully said that the State lacks energetic, loyal, and enthusiastic members of the profession, nor that these men have not worked hard for the interests of the whole profession; but the association is not supported by the great body of veterinarians who compose the profession in the State. We observe by the membership-roll that but a small percentage of the veterinarians of Chicago belong to the association; that while the names of three graduated men are upon the pay-roll of the Chicago Police Department, not one is upon the list of members of the State society; that of all those located at the Union Stock Yards connected with the Bureau of Animal Industry, not one takes any interest in the association, and so on in the majority of the ramifications of the profession in the State. The membership of the Illinois State Veterinary Medical Association is less than a single hundred, while the Chicago directory gives the names of one hundred and twenty-nine practitioners in that city alone, and in the whole State this number may be multiplied by five at least. And yet there are less than one hundred members. There is evidently lack of energy, lack of enthusiasm, and there is in consequence lack of legislation.

It is the desire of the State Society, as we are informed by its talented Secretary, Albert Babb, of Springfield, to introduce a bill at the next session of the legislature to bring about the tardy justice to which the extent and standing of the profession of that commonwealth entitles it, and he makes an earnest appeal that this time it shall be successful. Three previous bills have been presented to the legislature at the instigation of the society, and were nobly supported by many of its members, among whom were Williams, Shephard, Casewell, Withers, Hughes, Baker, Trumbower, Wilson, and others; but there was in every instance a lack of support from the rank and file. The present endeavor is being worked upon different and better lines. It is sought first to augment the membership of the association, and to secure the strength of unity and a singleness of purpose. In our efforts to assist this laudable undertaking of the members for the good of the profession of the State of Illinois, and incidentally of the whole world, we believe we can do so best by this earnest appeal to all qualified men to at once connect themselves with their State Association, and when the time comes to work with it for the attainment of the declared object, and if they do there can be no doubt of its accomplishment. When once upon the membership-roll, attend the meetings, and be amply compensated for the slight sacrifice of attendance in the benefits to be derived from the educational advantages she offers, in the acquaintances formed, and in the satisfaction experienced in having done that which every veterinarian who feels any pride in the profession of his espousal should regard as an honor, a privilege, and a pleasure to do. We, therefore, earnestly advise every reader of the REVIEW living within the State of Illinois to at once send his application for membership to Secretary Albert Babb, 320 South Eighth Street, Springfield, Ill.

AND NOW CANADA.—In the legislature at Winnipeg, on March 11th, according to the *Manitoba Free Press*, when Mr. McNaught moved the second reading of the bill to amend the veterinary association act, and its reference to the committee on private bills, the following discussion took place:

"Mr. Crosby said the practice of passing such acts was becoming decidedly unpopular all through the country. The people were in favor of free trade, applied not only to manufacturers, but also to other classes of the community. Almost the same arguments were used, in favor of the protection of manufactures as for this protection. The idea was that such restrictions raised the standard of qualification, and were thus in the public interest; yet it was a funny thing that the public never applied for any such restrictions, but the applicants were always members of the profession. The house ought to have some information what the qualification had been in the past two or three years. If it was necessary to raise the standard, he suggested that a new association should be formed, and the act made to apply to old members as well as new. He held that the protection should not go further than to provide that no one not qualified should be enabled to collect his pay by process of law.

"Mr. McNaught said the bill was for the protection of farmers as well as the professional men. There were only two veterinary colleges in the Dominion, the one in Montreal, the other in Toronto. The public would get better service by having the standard raised by making the course one of three sessions, of not less than six months each. The bill did not affect those at present in college.

"Mr. Rutherford said it was his misfortune, perhaps, to belong to that very much maligned class, the professional men, who were supposed to live by depredations upon the honest farmer. He enjoyed the sympathy and confidence of the farmers in his district. He had gained this position, first, by showing that he was competent. If he had robbed them by inefficient services his reputation would not stand as high as it did. The member for Dennis had evidently not studied the existing act, or he would have seen that the bill was really opening the doors to foreign competition. Hitherto the act had been inadvertently protective; but in the bill the words, 'Her Majesty's Dominion' were struck out, and the door was opened to properly qualified practitioners from the United States and other countries. The Veterinary Association and the public of Canada had been at the mercy of one man who ran the Ontario Veterinary College, an institution without a matriculation, a light final examination and a very short course, and had made out of it half a million dollars. The college in Montreal was in connection with McGill University, and was under Dr. McEachran; it had a three-years' course of study. Mr. Rutherford showed the difference between the standing of Canadian medical students and veterinary students in England, the former being enabled by a 3 to 6 year [month] course to become members of the Royal College of Surgeons, while graduates of the Ontario Veterinary College were compelled to matriculate and put in a four years' course. The bill was simply an attempt to raise the standard of veterinary education in Canada. In France, which sent out some of the very best veterinary surgeons, there was a seven years' course; Germany had a six years' course; England a four years' course; colleges in New York and Chicago a three years' course; Harvard and Philadelphia a four years' course.

"Mr. Jonasson thought the bill premature; the province being still too sparsely settled, so that it was difficult to secure qualified practitioners.

"Mr. Sirett pointed out a weak point in the bill; the country was already flooded with the class of professional men objected to, and under the bill they would be allowed to go on; the result would be to give them a practical monopoly.

"Mr. Rutherford replied that these men would die off in time, and their places would be filled with properly qualified men. There was, he admitted, some element of reason in what the member said, but how could they get over the difficulty? If the bill should have no other effect it would compel the institution in Toronto to add a year to its course and raise its curriculum.

"The motion was carried."

BUFFALO.—Never has an approaching meeting of the U. S. V. M. A. presented such evidences of wide-spread interest nor borne such premonitory symptoms of success as does the coming meeting at Buffalo. On another page will be found a letter from Secretary Gribble, of the Ohio State Veterinary Medical Association, giving notice that the Buckeye State will hold their meeting at the same time, in the same city, and the New York State Society will follow on the 4th and 5th. The local committee, having in charge the preparations for the entertainment and comfort of the guests, are omitting nothing to have every detail as complete as possible, and it is the prediction of all experienced association men that the outlook for a surpassing meeting for 1896 is brighter than ever in the history of the National

Association. The location of the meeting-place, with its many attractions for visitors, including Niagara Falls, will permit of the widest range of judgment on the part of the local committee. The REVIEW will keep its readers posted on the progress of the preparations, and it urges upon all who are to read papers at this meeting the importance of early notifying the Secretary, Dr. S. Stewart, 7½ South James Street, Kansas City, Kansas, so that no delay may be caused in the arrangement of the intellectual programme.

OUR esteemed contemporary, the *Journal of Comparative Medicine and Veterinary Archives*, gave its readers a treat for April by presenting them with an extra large number, it consisting of about a hundred pages of reading matter, and quite a fair showing of new advertisements, the majority of them being for this special issue only. The enterprise of the management is worthy of a generous response from the veterinary public, for whose interest and profit all veterinary journals in this country are published, as it will be many years hence before such an undertaking can be made to be a profitable enterprise. The REVIEW for the same month, without making any claim to be printing a souvenir edition, was forced to publish 96 pages of reading matter in order to do justice to the great amount of important and valuable material that is furnished by its collaborators and correspondents. The members of the profession who are readers should, therefore, do what they can to induce all of their brethren to become subscribers, so that this great educational and protective work which the journals show such a disposition to foster and extend shall be carried on by their support and encouragement. Whatever helps the journals helps the reader.

THE PRIZE OF THE U. S. V. M. A.—It would appear from the number of letters received by the REVIEW that the idea of having the competition for the prize of the National Association continued was a very popular one, and that the failure to realize substantial benefit and interest from it has been largely due to the conduct of the competition by the various prize committees who have had charge of it. One of the many letters received by us is printed in this issue from Dr. Hinebauch, which shows a careless administration of the interests of both the association and the contestants, all of which is quite sufficient to produce the lost interest that the chairman of that committee recently complained of and urged as a reason for discontinuing the contest for an indefinite period. The REVIEW urges upon the National Association the continuance of the prize offer, with the addition of the one offered by this journal, with the full assurance that it will stimulate original research and awaken an interest in individual investigations that cannot but redound to the credit and profit of the science of veterinary medicine everywhere.

IN the reorganization of the Kansas City Veterinary College, Dr. S. Stewart, of Kansas City, the efficient Secretary of the U. S. V. M. A., has been appointed Dean of the Faculty, and his sterling qualities as an executive will undoubtedly redound to the benefit and credit of the college. Under his directorship, we predict much success for the institution.

ORIGINAL ARTICLES.

MILK AS A FACTOR IN THE CAUSATION OF DISEASE.

By JNO. M. PARKER, D.V.S., HAVERHILL, MASS.

A Paper read before the Massachusetts Veterinary Medical Association.

In considering the subject of "Milk as a Factor in the Causation of Disease" I shall not attempt to do more than skim the surface. The subject is so large that I have been unable to do more than touch on some of the more important parts. There are several points of great interest closely connected with this subject, such as, "the influence of food stuffs on the healthfulness of milk," that I have not touched upon and that I hope to be able to take up at some future time.

Milk is the natural food for infants. In a perfect state it is the most perfect food we know, and of course it follows that it is of the utmost importance that it should be procured and placed on the market in as perfect a condition as possible. And here the study of bacteriology has been of the utmost importance to the dairy farmer. Housewives used to dread the thunderstorm, because the condition of the atmosphere was supposed to exert a peculiar influence on milk, causing it to sour. The study of bacteriology has shown the fallacy of this theory. The warm weather preceding the storm favors the development of germ life, which finds its way into the milk, causing it to sour and curdle. To prevent this taking place and to keep milk pure and sweet, it is only necessary to prevent the entrance or development of the various forms of bacteria: if this is done milk will keep almost indefinitely.

Practically, however, it is almost impossible to keep milk perfectly free from germ life, but with a little care the number can be greatly reduced.

As a rule the greatest number of bacteria find their way into milk during milking. The milker usually rests his head on the cow's flank immediately above the pail, and of necessity dirt and scurf and hairs from the cow find their way into the milk. The cow has possibly been standing in a mud-hole in the pasture, and the udder, body, flank and tail are probably covered with dirt and filth and decaying animal and vegetable matter, and of course the spores and germs from the grasses, marshes, and stagnant water are brushed and shaken off during milking, and drop into the milk. One has only to take a casual glance at the strainer after the milk has passed through to see straws, and hairs, and scales from sore teats or udders, along with fæces and dirt and filth of all kinds, all of which are teeming with germ life, and he will realize what necessity there is for a change of method, to keep pace with our increased knowledge on the subject.

Contamination, however, does not only come from the cow, but the milkers' hands and clothing, as well as pails, strainers, receptacles for holding and cooling milk, milk jars and skimmers, all should be sterilized. It is not sufficient to rinse out a pail with warm water. Pails should be washed with soda solution and then with boiling water, and if there are any seams in the pail, these should be scrubbed with a brush (all seams in the pail, without exception, should be soldered, otherwise the seam itself will be a receptacle for micro-organisms). Milkers' hands should be thoroughly washed with soap and warm water, and instead of any old dirty clothes being used for milking, clean overalls should invariably be used. The udder should also be thoroughly washed before milking. In this way the micro-organisms that are not washed off will adhere to the damp surface, and will not be so likely to fall off into the milk. Cows should also be groomed and curried each day as thoroughly as a horse. These are no idle fancies, but are well established facts, that are well illustrated by several investigators, notably by Dr. P. H. Bryce, of Ontario. In Dr. Bryce's experiments, gelatine plate cultures were poured, ½ c. c. of milk being added for each culture. In *three days* at a temperature of 66.70° F. the various plates gave the following results:

I Plate. Direct from the cow, no precaution except that the milk was received into sterilized test tubes: 15 micro-organisms per c. c.

II Plate. Pail in stable receiving milk from different cows, milk strained through a cloth: 720 micro-organisms per c. c.

III Plate. Milk from cooling apparatus after cooling: 884 micro-organisms per c. c.

IV Plate. Milk from bottles immediately after filling: 1640 micro-organisms per c. c.

These experiments plainly show the greatest source of contamination. In the first plate, milking directly into a test tube, after three days at a temperature of 66.70°F. there were only 15 micro-organisms per c. c. This milk came directly from the cow into a sterilized test tube and of course there was no outside contamination. In the next plate there were 720 germs in each c. c. after being milked into pail and strained through cloth. After cooling there were 884, and after filling into bottles there were 1640. As the milk came into contact with more surface the numbers increased rapidly, and this, remember, on a farm where the milk was handled with unusual care as regards cleanliness.

Experiments conducted by Dr. Peters show another occasional source of contamination, especially in cows after standing in stagnant water, or lying on dirty floors. These experiments were carried out under careful antiseptic precautions. Clean suits were put on, the cows' udders, teats, flanks, sides, groins and abdomens were washed with bichloride solution, they were milked into sterile bottles, four cows being used in the experiments.

Table marked "I" represents milk in first half of milking and drawn by hand directly into sterile bottles.

No. II represents milk drawn through sterile canula into bottle.

Nos. III and IV represent milk drawn by hand after more than half the udder had been emptied.

The columns marked A, B, C, D, represent the milk from the four cows, the figures showing the number of colonies of bacteria in each plate.

	A.	B.	C.	D.
I.	141	167	19	53
II.	0	0	1	2
III.	0	6	0	0
IV.	0	0	1	2

It will be noticed that in the first milk drawn from each cow there were a number of colonies of bacteria, while the later portion of the milking were practically free from bacteria, the milk being drawn into sterile bottles.

It would seem, then, that as a matter of practical importance it would be well to strip the teat once or twice before milking into a sterilized pail. In this way the micro-organisms which evidently find their way into the milk duct would be washed out. It also emphasizes the importance of cleanly surroundings for cattle, for we find that the cows referred to in Bryce's experiments were handled with unusual care as regards cleanliness, with the evident result that the first of the milk was not contaminated, as in Dr. Peters' experiments.

Not only should the greatest care be exercised as to cleanliness, however, but after ærating the milk to rid it of bad odors, it should be rapidly cooled to about 41°F., the cooling of milk preventing or retarding the growth of the various micro-organisms contained in the milk. To again quote from Dr. Bryce, "Milk that had been kept in a cool place, and then showed 10,000 micro-organisms per c. c. was afterwards allowed to stand in a warm room some six hours, and during this time the bacteria increased from 10,000 to 100,000 per c. c."

Experiments by Feer showed the same results. "In examining milk a few hours after milking that had been supplied to a Children's Hospital, he found in winter 50 to 70,000 bacteria per c. c. In summer, under the same conditions, they averaged 300,000 and after standing a few hours at ordinary temperature they multiplied to 14,000,000. (Annual of Med. Sciences.)

These experiments show the importance of cleanliness and of keeping the milk at a low temperature, not only at the dairy farm, but after delivery to the customer. Many a farmer gets blamed for delivering impure or sour milk, when no one is at fault but the ignorant or careless householders. Want of knowledge or want of appreciation of the importance of absolute cleanliness in the care of milk is perhaps one of the greatest, though unrealized, difficulties that health authorities will have to contend against.

Of all infantile disorders cholera infantum or milk diarrhœa is by far the most fatal, and thousands of children die every summer from this cause alone. In referring to milk diarrhœa, Keating says, "Its character and type are modified by three important factors: I. Climate or season. II. Social condition. III. Food. It is not now believed that heat *per se* causes diarrhœa. It is only a powerful, indirect factor, lowering the vitality of the patient and favoring fermentive changes in the milk. It is to the feeding bottle and its contents that attention must be specially directed in the prevention of autumnal diarrhœa.

It only occurs in hot weather. A temperature of 60°F. or over favors the development and multiplication of the various micro-organisms that are the prime cause of this disease. There is no specific micro-organism present, but the presence of all toxicogenic bacteria (or bacteria that give off poisonous gases) in milk or food of any kind must be avoided. Infants fed exclusively on sterile foods are not liable to be attacked, and various methods have been tried to prevent the development of these organisms in milk. The principal of these are the pasteurization and the sterilization of milk, and in European countries and in the West these methods are adopted quite extensively.

The pasteurization of milk consists in the placing of milk in sterile bottles or jars and exposing them to a temperature of from 150°F. to 180°F. Milk treated in this way, cooled to 41°F. and kept at a temperature below 60°F. will keep sweet and pure for several days and "sweet milk may be heated to 180°F. without any coagulation or burning or any material change taking place." (Year Book Dept. of Agr., 1895.) To pasteurize milk with the best results, however, milk must be fresh. It should be perfectly pure, and as free as possible from bacteria. Where there are any great number of micro-organisms present, and where there is the least tendency to sour, even when so slight as not to be perceptible to taste, the heat will coagulate the albumen, rendering it more or less indigestible.

All germs are not destroyed at 180° F., however, and some even multiply at that temperature. To totally destroy all germs sterilizing at a temperature of 230° F. is required. On the other hand, that amount of heat would cause a coagulation of casein, and would injure the taste and appearance of the milk, but all germs and spores can be destroyed by interrupted heating, *i. e.*, by submitting the milk to a temperature of 180° F. and cooling, repeating the process for five or six consecutive days. The rapid change of temperature from hot to cold favors the keeping qualities of the milk by either killing the bacteria or lessening their vitality so that a long time is required before they can begin to multiply. (Year Book Dept. Agr., 1896.)

It must be remembered, however, that the pasteurization or sterilization of milk is not of itself an advantage to milk. It is undertaken simply for the purpose of destroying the activity of that which is foreign to milk and which finds its way into milk either during or after milking. Milk from healthy cows is of itself absolutely pure, and but for the entrance of foreign organisms would keep indefinitely. It follows, then, that an effort should be made to prevent the entrance of these foreign matters. Much can be done in this way—and for their own protection dairymen ought to do as much as possible and go as far as practicable in this direction.

Some of the principal pathogenic micro-organisms found in milk are those of tuberculosis, typhoid fever, cholera, diphtheria, scarlet fever, puss cocci, streptococci, pneumococci, etc. The most important of these are probably the specific organisms of tuberculosis, typhoid, cholera, diphtheria and scarlet fever. The first two have each their own peculiarities which make them specially important. Tubercle bacilli because they are carried from the cow direct, and come into the milk when present by way of the udder ; the typhoid fever bacilli because it multiplies rapidly in milk at ordinary temperature, so that once it finds its way into milk it will multiply rapidly and become a serious source of danger. As a precautionary measure, then, the greatest care should be exercised in using water for washing cans and other utensils to make sure that there is no possibility of contamination from this source. A most interesting illustration of the way in which typhoid fever is spread by the use of infected milk is reported to have occurred at Marlybone, where a farm hand was suffering from typhoid fever. A large number of persons taking milk from this farm became sick. The outbreak of fever following from house to house appearing in those houses supplied from this farm, and missing the intervening houses, so that in a certain street all those families that had been in the habit of getting their milk from this farm were sick, while their neighbors escaped.

A case is also reported where after cans were thoroughly washed with soda and boiling water they were simply rinsed out before milking, with clear cold water from a well. The well afterwards proved to be infected and a large number of persons became sick from this cause. Cholera, scarlet fever and diphtheria, as well as other infectious diseases, may be communicated in the same way, but the immediate danger is not so great, because these organisms will not, as a rule, multiply in milk, so that there is not the same danger of the rapid spread of the disease. These organisms are all destroyed by heating to 180° F.

The bacillus of tuberculosis stands in a class by itself, both because of its special characteristics and because of the amount of work that has been done on the subject. The greatest diversity of opinion prevails as to the danger of tuberculosis from the use of milk. What, then, are the facts in the case?

We find, to begin with, that deaths from consumption are steadily decreasing. In Massachusetts the percentage of deaths for each 1000 of population from 1883 to 1893, inclusive, has fallen from 31.6 to 22.7. In New Hampshire also the statistics show a gradual falling off in the number of deaths from phthisis pulmonalis. The same decrease appears to a marked degree in Great Britain.

This decrease of course has nothing to do with the use of milk, but is due to an increased knowledge of the subject and to improved sanitary conditions generally.

A great deal has been said and written on the question of the infectiousness of milk, when the udder is not infected. Now, if we take Prof. Ernst's work on the subject, we find that even Prof. Ernst does not claim that the danger is so very great. He simply says that there are cases that are dangerous, even where the udder is not affected, but in judging of the amount of danger it must be remembered that all his cases were picked out by physical examination alone. No tuberculin was used, and it is just as possible to pick out these bad cases now as it was then, so that really no milk from such cows as he experimented with should be on the market.

In Dr. Ernst's cases 36 cows were experimented with, and the bacillus was found in the milk of 12 of these 36.

In the first series of experiments 88 guinea pigs were inoculated with milk from 16 of these tuberculous cows, and the milk from only six of these cows was found capable of producing the disease, and only 12 of these 88 guinea pigs became infected.

2d series—90 rabbits were inoculated with milk from 19 different tuberculous cows. The milk from only 4 of the cows produced the disease, and only 6 of the 90 rabbits became infected.

3d series—48 rabbits were fed with milk from 5 tuberculous cows and only 2 became diseased, both being fed with milk from the same cow.

Practically, then, when these well marked cases gave no greater results, it would seem that with the exclusion of these advanced cases, the milk would be harmless, unless the udder was affected. This seems to have been the opinion of the Royal Commission appointed by the British Government to consider the matter. It is also the opinion of such able authority as Prof. Theobold Smith, late of the Bureau of Animal Industry. In the Year Book of the U. S. Dept. of Agr. he says:

"We may, for convenience and clearness, typify those stages:—

"1st. In the earlier stages of the disease, provided the udder is normal, the milk is free from tubercle bacilli.

"2d. In the more advanced stages, provided the udder is normal, the milk may or may not contain tubercle bacilli. If the disease has become generalized, the indications are that at some time or other, tubercle bacilli may pass into the milk. This passage is revealed at autopsy by disease of the glands of the udder. The indications are that this passage is largely temporary, perhaps lasting only a day before the bacilli are caught up and filtered out into the lymphatic system.

"The indications are, furthermore, that comparatively few bacilli pass through the udder. The udder itself does not favor their development there, and the closest inspection fails to reveal any augmenting foci of disease. These statements are based on careful examination of slaughtered cattle, and the thorough testing of milk from advanced cases."

Practically, then, the danger is confined to cases in which there is disease of the udder; such cases are comparatively rare. There are, I believe, no authoritative statistics showing more than from 2½ to 3½ of cases of disease of the udder among tuberculous cows. My own experience does not give as high a percentage as that. In Pennsylvania, Dr. Ridge gives the percentage of tuberculosis of the udder in the neighborhood of 3 per cent. Dr. Peters gives it as "very small." Dr. Burr gives 12 cows out of 300 cases of tuberculosis as having diseased udders, and Theobold Smith says, "fortunately tuberculosis of the udder is rare. Among 200 infected animals he has only seen one case of udder disease, and 16 others, which, according to post mortem studies, may have shed at one time or another, tubercle bacilli into the milk in small numbers, but which had no recognizable disease of the udder itself." He further says "the large percentage of udder tuberculosis reported by several writers lately is incompatible with all former statistics, and indicates either an unprecedented condition in certain localities, or else an error in diagnosis."

And finally, in the Annual Report of the State Board of Cattle Commissioners, in reports of post mortem lesions, while disease of lungs, mediastinal glands, bronchial glands, etc., are reported, there is no mention made of even a single case of disease of the udder.

But the best evidence of the absence of great danger is found in such statistics as are collected by Dr. Watson and presented in the Report of the State Board of Health of N. H. for 1892. These statistics are collected from slaughter-house reports, principally in Germany, and, as Dr. Watson points out, "calves are fed exclusively on cows' milk, so that they offer by far the best of natural experiments as to the amount of danger to human beings from raw cows' milk."

He shows that among

23,557	calves	slaughtered	there	were	2	cases		of. tuberculosis.
30,477	"	"	"	"	1	"		"
143,218	"	"	"	"	35	"		"
23,592	"	"	"	"	1	"		"
800,000	"	"	"	"	5	"		"
24,766	"	"	"	"	1	"		"
1,153,695	"	"	"	"	231	"	.006%	"

"The only explanation of these figures," says Dr. Watson, "is that there are few bacilli in the milk of most tuberculous cows."

Taking everything into consideration, then, the only conclusion we can come to, is that *practically and under natural conditions* the greatest danger from the general use of cows' milk, especially by infants, is the part it plays in the ætiology of cholera infantum.

In the mortality report of the Mass. Board of Health for 1892, it is shown that there were,

5739	deaths	from	phthisis at all ages,
2898	"	"	cholera infantum,
1455	"	"	diphtheria and croup,
827	"	"	typhoid fever,
669	"	"	scarlet fever,
80	"	"	measles.

In this report we see cholera infantum placed next to phthisis in the death rate. Now, in considering this subject it must be remembered that the latest statistics show that by far the largest proportion of cases of phthisis occur in people who have recently moved into houses previously occupied by consumptives. While, on the other hand, cholera infantum is due almost solely to the ingestion of pure milk. Further, the deaths from phthisis include deaths at all ages, while cholera infantum occurs only in children under five years, and practically under one year old.

In New Hampshire the proportion of deaths from cholera infantum is even greater. For the year ending 1891, the Report shows

695 deaths from consumption, and
486 deaths from cholera infantum.

The Report then remarks "cholera infantum was the cause of more than one-third of all the deaths from prominent zymotic diseases in New Hampshire in 1891."

In Ontario for the year ending 1892, in a population of over 2,000,000, phthisis caused 2592 deaths and cholera infantum 670, but among the 23,190 children under one year old, cholera infantum caused 600 deaths, while phthisis caused 283 deaths.

These figures are pregnant with meaning. Cholera infantum, or milk diarrhœa, is purely a disease of infants, due as a rule to improper feeding, with impure milk. Yet in Massachusetts it was the cause of 2898 out of 11,668 deaths from the six most prominent zymotic diseases. In other words, cholera infantum, was the cause of one-fourth of all deaths from all prominent zymotic diseases in Massachusetts in 1892, and of more than one-third of all deaths from all prominent zymotic diseases in New Hampshire in 1891.

Cholera infantum is essentially a preventable disease and by the simple introduction of better methods of keeping and caring for dairy stock, and milk, and by a realization of the absolute importance and necessity of perfect cleanliness, this source of danger can be immeasurably lessened. Knowing what is needed, then it becomes our duty to spread information on this subject by every means in our power.

If improvements are not introduced, and if advantage is not taken of our increased knowledge on the subject, then the prophesies of certain Western men may come true, and Western pasteurized milk may enter into serious competition with the dairy industry in the East. It behooves our farmers, then, to brace up, and for their own sake do what they can to improve the purity and keeping quality of our milk supply.

PATHOGENESIS AND DEVELOPMENT OF DISEASE.

By W. L. Rhoads, D.V.S., Lansdowne, Pa.

A Paper read before the Pennsylvania State Veterinary Medical Association.

During yesterday's meeting I heard some of our fraternal friends say what they thought we should do to keep up with the times. To do this we have determined the veterinary profession shall become the foundation upon which the science of protecting the public health shall depend. We can best accomplish this object by a thorough and comprehensive study of the origin and development of disease—which is any departure from the state of health, either functional or organic. Though the physician attempts to regulate and control the disease after it has found lodgment in our systems, the veterinarian strives to prevent its introduction into our bodies by purifying the meat and milk supply of his community, as they are probably the most potent factors in the development and transmission of disease. Meat left uncovered in the open air for a few hours in a moderate temperature soon becomes thoroughly infested with bacteria, especially if moisture is present.

Milk is a most favorable media for the nourishment and development of the germs of disease. These germs may come from the cow, as in the case of tuberculosis or parenchymatous mastitis, which has produced throughout a milkman's route gastro-intestinal catarrh, or the germ may be added to the milk from human sources, as in the case of scarlet fever, diphtheria or typhoid fever. Every epidemic of typhoid in civilized and enlightened countries is now traced to or ascribed to infection from milk or water and milk has proven to be the better media for its transmission. As a considerable percentage of the milch cows in a civilized country are consumptive, and as germs of this dread disease are transmitted through the milk from such cows to human consumers, it becomes necessary for enlightened and progressive boards of health to assume the sanitary supervision (through their veterinarian) of the milk supplies of their respective communities. I realize I have selected a subject far beyond the limit of my brief experience, and those practitioners who fail to keep abreast with the current of veterinary and medical literature are losing much valuable information on this topic of most vital importance. I feel no question in medicine of late years has occupied so much space and thought or caused so much scientific research and experiment as the origin, development and communication of disease. We to-day have a knowledge, though yet limited, of organisms infinitely small, the existence of which was not suspected by the ordinary practitioner till within the last few years. When we consider that some of these germs when mature are but seven one-thousandths of an inch in length and their breadth scarcely one-fifth their length, our ignorance of them in the past is not surprising. We now feel that we understand fairly well the relation such organisms bear to our own as well as the organisms with which we have to deal in the lower animals in health and disease.

It is true "many of the lower organisms" both animal and vegetable, have for years been recognized as the direct cause of local maladies, both external and internal, for many of these parasites were of sufficient size to be in the aggregate seen by the naked eye or a low power lens. When we realize that many of the most potent germs do not exceed $\frac{1}{1000}$ m. m. in diameter, these bodies so light and small are easily influenced by movements of wind, rain or change of temperature, this coupled with the fact that no so-called case of spontaneous generation has withstood rigid investigation. We have a faint idea of the great good done by Bonnet, who between 1740 and 1793 advanced the theory of universal dissemination of seeds and spores known as the preexisting germ theory (this is the oldest and probably the most widely accepted theory ever known in history of medical science). During this same period Needham came to the conclusion that infusion of organic matter placed in hermetically closed vessels, after boiling, brought forth minute organisms; this is known as the vegetative or producing force theory. The method of study introduced by Needham forms the basis of all subsequent experiments on this question, as well as the culture researches in connection with the organisms of disease. Dr. Budd, in 1849, claimed the body was invaded by organisms which under certain conditions and surroundings caused infectious diseases. It is of late years, in fact since '70, that we have been shown the relation of micro-organisms to those diseases which most closely interest the veterinarian—as anthrax, septicæmia, cholera in its various forms, lupus, glanders, rabies, pleuro-pneumonia, favus and the greatest of all scourges, tuberculosis. Koch and Pasteur have done much in the latter years to enlighten us upon this subject. The satisfying of all the requirements essential to prove a germ indigenous to a disease is difficult and has led to what may be termed a special branch of medical art.

Brefalo has observed that bacterium may divide once every half hour and its progeny repeat the process in the same time, thus producing in 24 hours segments amounting to many million spores or resting cells; these are the smallest segments or cocci into which the filament at length breaks up. Yet it is questionable whether the bacteria suspended in the air are so plentiful as was once supposed. Formerly the great difficulty seemed to lie in distinguishing accurately between a germ and spore, the words being used in an indefinite sense. A *germ* is the first principle of anything that has life whether animal or vegetable, a growing point from which the life and organization of the future plant are to spring, while a *spore* is a fecundated seed of a lower organism, and though it may be practically considered the originator of a disease, in a true sense it cannot be, for the elements of which it is composed derive some consideration. Yet if the pre-existing spore is not present it then becomes most difficult to account for the minute infusoria found swarming fully developed in putrefying fluid or flesh—in themselves scientifically healthy, though not rendered antiseptic, though they may be placed in antiseptic surroundings. It has been frequently shown that pure culture of fungi grown on gelatine, decompose, and the fluid in which they are soon swarms with bacteria. The fungi being so minute we have little time knowledge of them and the infusoria might come from fungi through development by hetrogenesis. Would this not lead us into the belief that the light giving forces are in themselves spontaneous generators of disease from germs pre-existing? Yet we are told by scientists of to-day that light is a most potent factor in the destruction of ptomaines. Prof. Ward of England, going so far as to assert after experimenting with electric light that the light rays, and not the heat rays, are destructive to bacteria and that among the different colored rays the blue rays are the most effective for this purpose, while another scientist claims the yellow or orange rays to be most conducive to the propagation of bacteria, have not heard of their growth in total darkness. Anthrax was formerly attributed to a minute microscopic fly, which, on account of their greatn umber, formed a blue mist in the atmosphere. This was the first disease to have conclusive proof offered of its germ origin. The question of its etiological relation was placed on a scientific basis by inoculation with the pure culture of anthrax bacillus. To Pasteur belongs the credit for experiment or preventive inoculation with his attenuated virus in many diseases. Animals inoculated with cultivated bacillus show immunity from disease when inoculated with the deadly wild germ. The cause for this has not been as yet determined.

Though Matschnikoff in 1884 advanced the theory that the white corpuscles eliminated the bacilli from the blood, germs as a rule are very tenacious of life, and, while light is now believed to destroy them, it has been but a short time since scientists told us that boiling would destroy them,yet they have been known to withstand as low as 100° C. and as high as 110° C., the ripe spores showing the greater powers of resistance. They flourish best in moisture, at a temperature of about 35° C. and readily live on remains of dead organisms or truly parasitical are nourished direct from a living body; as a rule their ends are rounded and they frequently present a beaded appearance if not isolated. Though their length may vary, they are always evenly proportioned. I trust the future will give such magnifying powers that we may be enabled to see that each of these spores is an organism within itself, though communication with its neighbor may be essential to its propagation or development. We are striving to learn the why and the wherefore, the cause and effect, and with a proper knowledge of these diseases may be treated intelligently, practically and successfully. It is for the accomplishment of this end that animals, from the tiny mouse to the spiteful terrier, have been subjected to injections of different brands of germ life, and while they may be dismissed slightly damaged or sent to their last reward, the slight inconvenience is not to be compared with the knowledge gained. The veterinarian to be abreast with the times must have in his medicine chest an anti for pneumonia, tetanus, tuberculosis, rabies and many kindred diseases.

Disease is largely a problem of political economy and is influenced by the ebb and flow of human affairs.

An era of prosperity greatly reduces disease, the people more readily recognize the difference between good and bad food, an adequate amount of rest, and more perfect sanitation. When masses have become thoroughly aroused and realize these to be essentials to health and longevity, then disease will become a brief infrequent reparative process. I sincerely thank you for your kind attention and consideration.

No living germ or disease can resist the antiseptic power of essence of cinnamon for more than a few hours, is the conclusion announced by M. Chamberland as the result of prolonged research, and in M. Pasteur's laboratory it is said to destroy microbes as effectually as corrosive sublimate.

PRESIDENT W. H. HARBAUGH and his associates of the Virginia Veterinary Medical Association, not content to rest under their well-earned laurels in having obtained so much for their profession, not only of their own State, but throughout the whole country, in the legal recognition they so recently secured, are now striking for dairy inspection in all the cities of the State. It does seem that if such laws can be enacted in the Old Dominion that our brethren should take courage everywhere.

THE THEORIES OF IMMUNITY.

By E. P. Niles, D.V.M., Blacksburg, Va.

Read before the Virginia State Veterinary Medical Association at Richmond, Va., January 2, 1896.

No branch of the science of biology is receiving at the present time more deserved attention than immunity. It may also be said that less is known about this part of the science than of any other.

It is not my intention to offer anything new on the subject. If I even succeed in placing before you in an intelligent manner the views of our eminent bacteriologists I shall feel that my feeble effort has not been in vain. In the beginning of this paper I shall not attempt to offer a definition of the term immunity, but shall confine my remarks to a discussion of the theories of immunity, and a few of the experiments brought to bear in support of the same.

Immunity may be discussed under two heads, viz., natural and acquired. It is a well-known fact that certain bacterial diseases affect a certain class of animals, while others are exempt from the action of these germs. Glanders is essentially a disease of the equine species, while the bovine species show perfect immunity to the disease. The dog and rat are decidedly immune to anthrax, while it is readily communicated to the equine, bovine and human races by inoculation. Even age in animals of the same species seems to influence the degree of immunity. In the human family scarlet fever and whooping-cough are considered children's diseases, since they are much more prevalent in them than adults. Diphtheria is also more frequently met with in children. At the same time, however, I have heard physicians assert that a young baby will not contract the disease. If this be true, it can only be explained by the supposed germicidal action of the thymus gland, which rapidly disappears after birth, and possibly some influence of the mother's milk. In the lower animals anthrax is known to be much more fatal to the young, while in Texas cattle fever the old seem to be more susceptible.

It is said that the blood of naturally immune animals when injected into susceptible animals will counteract the effect of certain disease-producing germs. For instance, a small quantity of the blood of a frog when injected into the circulation of a mouse will render that animal immune to anthrax, but has no such action in reference to other diseases. It would seem, then, that an animal or person may be immune to certain diseases and that the blood of such an individual has, to a certain extent, the property of producing immunity in other subjects.

Just what this immunitive substance is remains to be discovered. Many theories have been advanced but they all lack positive proof.

Before discussing these theories in detail it must be remembered that in susceptible animals pathogenic germs, when introduced into the system, multiply with great rapidity, while in non-susceptible animals no such multiplication takes place.

In naturally immune animals, then, there must be some substance which prevents this development of the germ, or some condition of the system unfavorable to its growth.

In some the body temperature seems to be the unfavorable element; since certain bacteria only grow in very narrow limits of temperature. The common fowl is generally supposed to be immune to anthrax under normal conditions, but Pasteur has shown that they may be rendered susceptible by being refrigerated after inoculation by immersing their bodies in cold water. On the other hand, Koch has pointed out that sparrows, whose normal temperature is as high as that of the fowl, contract the disease without refrigeration. From the above we are led to the conclusion that the high temperature of the fowl is not the only factor brought to bear in rendering the fowl immune to anthrax. Gibier has shown that the anthrax bacillus will multiply in both the frog and fish if kept in water at a temperature of 35 degrees centigrade; both being immune under ordinary circumstances. The bacillus of anthrax, however, grows under quite a wide range of temperature and it is more than probable that some agent other than the body temperature of the subjects mentioned has something to do in causing this natural immunity. There are, however, certain pathogenic bacteria to which the above theory may hold good, *e. g.*, the tubercle bacilli, which require a temperature of 37 degrees C. or more for their multiplication.

The reaction of the body fluids, according to the experiments of Behring, seems to have a decided influence in producing the decided immunity of the white rat to anthrax. The blood of these animals is decidedly alkaline, to which is attributed the remarkable resistance of these animals to virulent cultures of the bacillus of anthrax. When so fed, however, as to render their blood acid they readily yield to the disease. It has also been shown by Behring, Nuttall and others that recently drawn blood of naturally immune animals has a decided germicidal effect on certain pathogenic bacteria, while upon others it has no such effect. Buchner has demonstrated that this power belongs to the fluid part of the blood and not to the cellular elements. This power is said to be destroyed by heat, and lost when the blood has been kept for a considerable length of time, but is not affected by cold. It is also claimed that this power of the blood is very decided in its action, but limited to a given number of bacteria, and that when this number is exceeded that rapid development of the germ takes place in the blood serum, but becomes very much attenuated.

Hankins has isolated from the spleen and blood of rats a substance which has decided germicidal properties, and which he terms *globulin*. While keeping in view the alkaline theory, he attributes the power of rats' blood to destroy the anthrax bacillus largely to this globulin.

Kitasoto and others have published interesting results of their experiments in which they made a bouillon from the thymus gland of a calf. It was found that the tetanus bacillus when cultivated in this fluid did not form spores and had but little virulence. Small animals inoculated with small quantities of these cultures were rendered immune. The blood serum of such animals was also found to be capable of producing immunity in other animals. The same was also found to be true with a few other pathogenic germs. This experiment led to the present anti-toxine treatment for diphtheria. To this gland may be attributed the certain degree of immunity enjoyed by certain young.

It is worthy of note that by far the majority of pathogenic bacteria are only capable of producing disease by the products, toxalbumins, of their multiplication within the system, or by the absorption of these products through the tissues, as in diphtheria and tetanus, and, that the immunitive substance in the blood or tissue must have the power of neutralizing these toxalbumins. In support of this theory Arloing has been able to produce symptomatic anthrax in naturally immune animals by adding certain chemicals to the cultures with which they were inoculated; thus seeming to indicate that the immunitive substance was destroyed by the chemical.

The subject of *acquired immunity* deserves our special attention; since the whole army of bacteriologists seems to be centred upon that one point for distinction, and, while as yet but little is known on the subject, marvelous revelations may be looked for in the comparatively near future.

It is a well established fact that a single attack of such diseases as small-pox, scarlet fever and yellow fever generally confer immunity from subsequent attacks. It is interesting to note, too, that this immunity is a duration of a life-time. In the above mentioned diseases the system becomes affected in general, although this is not necessary to produce perfect immunity; for we have similar results from such local affections as whooping-cough and mumps. In the first instance the immunitive substance is developed within the system, while in the second it must be absorbed from the infected area. It is also worthy of note that an attack of a certain infectious disease does not render the patient immune from other infectious diseases.

A number of theories have been advanced as to the nature of this acquired immunity but none have been adopted as clear and definite. The severity of an attack of an infectious disease does not affect the degree of immunity produced ; *e. g.*, a mild attack of small-pox or scarlet fever will render the patient as thoroughly immune as a severe attack. Indeed, a severe attack of the disease does not always render the patient absolutely immune ; for cases are on record in which certain individuals have been known to suffer a second attack.

For a time it was the belief of Pasteur that in an attack of infectious disease the pathogenic bacteria in its multiplication in the body of a susceptible animal exhausted some substance necessary for its growth, and that this substance was never reproduced. In support of this theory an artificial culture media may be compared to the body. When bacteria have grown in a given quantity of culture media for a certain time it is observed that further development ceases, which may be due to one or both of two factors, viz., exhaustion of nutrition and excessive amount of toxalbumins.

We are hardly justified in supposing that the nutrition of the body has been used up by the bacteria, and would, therefore, have to conclude that the toxalbumins present in the system prevent any further development of the germ. At the same time it is hardly reasonable to suppose that these substances would not be excreted from the body in course of time. It would be just as unreasonable to suppose that a normal substance in the body which had been exhausted by the bacteria would not again be reproduced.

It will be seen, then, that if immunity is due to either of the above theories alone that it could only be temporary. It has been argued by some, especially Mitchnikoff, that immunity is largely, if not entirely due to the action of the white blood corpuscles which Mitchnikoff terms phagocytes. When the system becomes invaded with bacteria it is known that many of the germs are picked up and destroyed by these corpuscles. It is really a battle between the lucocytes and the bacteria in which many on each side are slain. If examined under the microscope lucocytes will be seen to contain various numbers of bacteria in their interior. In some it would appear that the lucocytes were capable of digesting the bacteria and assimilating them as nutrition, while in others the opposite suggests itself, in view of which the question naturally arises: Do the bacteria flock to the lucocytes because they find in them a suitable culture media, or do the lucocytes make the attack?

Those who support the theory of phagocytosis attribute immunity to the power of the lucocytes to attack and destroy the germ. There is no doubt that they have some such power but I do not believe that we can attribute immunity to this one factor alone.

It is well known that the system may acquire a certain tolerance to certain drugs, such as opium, tobacco and arsenic. When the use of these is continued for some time, doses sufficiently large to destroy the life of an ordinary individual may be taken with impunity. If the system will acquire a tolerance to the action of such drugs it is reasonable to suppose that it may also acquire a tolerance to the action of bacteria, or their toxalbumins.

Until more is known on the subject we shall have to be content with the theory that immunity is due to three factors, viz., the action of lucocytes upon bacteria when introduced into the body; acquired tolerance of the cellular elements of the body; and the formation in the system of antitoxines which oppose further development of the pathogenic micro-organism.

AZOTURIA.

By F. S. Allen, D.V.S., Philadelphia, Pa.

Report of three cases before the Keystone Veterinary Medical Association, March 11, '96.

On January 1, 1887, I was called to see a black gelding, five years old, sixteen and one-half hands high, that was down, in a lumber yard, and unable to rise. On my arrival, I learned the horse had been removed to the owner's stable, some four miles away, in an ambulance, also that the animal had been lying in the snow and slush for over four hours previous to his removal.

On arrival at the stable, I at once removed the urine, which was of a very dark-brown color (nearly black). The animal was then placed on fresh dry straw. Blankets were piled upon him, to protect the skin and kidneys, also to produce diaphoresis. A ball was then given, containing calomel and Barbadoes aloes. One dose of chloral hydrate was then given, to quiet the animal. This was followed up with the tr. opium, in one ounce doses (as often as necessary), advice being given, however, to use only what was absolutely necessary to keep the animal quiet, every effort being made to keep the animal quiet without medicine. Two attendants remained with the animal day and night until he regained his feet.

The urine was removed three times during the first twenty-four hours, and twice the second day. Two pints of raw linseed oil were given during the first day to increase the action of the ball, which operated slightly on the third day. The animal regained his feet on this, the third day, but there was a loss of power in the near hind leg, which remained with him for many months, even after he resumed work. Liniments with friction were resorted to for a long time over the stifle, gluteal muscles and lumbar region. A blister was applied over the stifle region, with little benefit. The animal was put to work, and there was a marked dropping on the near hind leg that continued for at least six months, and the animal was never quite as well as before sick. Friction was applied for a long time in the region of the stifle after the animal resumed work, and did as much good, apparently, as anything.

Case No. 2.—Was a gray gelding, eight years old and sixteen and one-half hands high. This horse had been at work all the morning, January 20, 1896. In the afternoon, on leading him from the stable to go to work, the teamster noticed he was lame. At this time I drove up to the office, just as they were about to send or telephone for me. I saw I had a case of Azoturia, and on removing the urine, found it thick and of a very dark color (chocolate). I at once gave a ball of aloes, containing one drachm of calomel and six drachms of Barbadoes aloes.

I then put up a mixture of

℞. Ext. Buchu fl.
" Juniperis Becca fl.
Act. Potass. *āā* ℥ iv.
M. Aquæ q. s. ℥ xii.

and gave one ounce every hour for twenty-four hours, then, on the second day, one ounce every three hours. I had two thick blankets put on him. All this time he remained standing, but I could see he was standing upon three legs, and gradually growing worse, soon going down. The off hind leg was the one most affected. I encouraged him to remain down, and made every effort to keep him quiet as before. I removed his urine in the evening, and gave him one drachm of calomel. Later on he was given one pint of raw linseed oil. He remained down nearly all night, occasionally, towards morning, getting partly up, and turning, but quiet. In the morning he was found up, standing quietly, also purging freely. He was standing mostly upon three legs. Liniments and friction were used for two days. He went to work on the tenth day, and might have worked even earlier.

Case No. 3.—On February 17, 1896, I was called to see this same gray gelding (Case No. 2) again. He was in the upper part of the city, some five miles away from home. He reached his destination with a load of lumber, but when about to return home, he became lame, and being unable to return, was taken to a near-by stable, to await the coming of the ambulance.

It was some four hours before he arrived at the stable for treatment. I was not on hand, but had left instructions with the foreman to see that he received one-half pound of bi-carbonate of soda, in a pint of water, which he did. On my arrival I removed his urine, which was a very dark chocolate color and thick. He was placed in a large roomy stall, containing peat moss to a depth of about five inches, which was fresh and dry, free from lumps, making a nice soft bed. He was covered over with blankets and three large sails, which kept him very warm. I then administered a ball containing aloes and calomel, as before. The second half pound of bicarbonate of soda was then administered (one hour after the first dose). In six hours I gave the third half pound of the bicarbonate of soda. I followed this up in six hours with the fourth half pound, making in all, two pounds in thirteen hours. The next day he was given four ounces, morning, noon and night.

In connection with this treatment, I gave every hour, the same mixture, of ext. buchu, ext. juniper, and act. potass, etc., every hour, for twenty-four hours, and then once in three hours. The urine was removed three times in twenty hours. When removed in the evening, it was still thick and dark in color. This horse at no time during the afternoon or evening was able to put any weight on his hind extremities. He was turned several times during the day and night. The attendants were instructed to do everything in their power, to keep him quiet and prevent all attempts to rise.

In the morning I telephoned over to learn his condition and was informed he had made attempts to rise, and that they had allowed him to do so. Also that they had placed him in the slings, left ready for him, if needed. The slings were not needed, but were left on one day. In placing him in the slings, it was necessary to lead or walk him a distance of twenty feet or more.

It was just nineteen hours from the time he was placed under treatment, that he was able to stand alone. I used the bicarbonate of soda, fearing that with my old form of treatment, the patient would die, it being the second attack, and very severe. I had learned of the bicarbonate of soda treatment, only the day previous, through the kindness of Dr. Leonard Pearson, who kindly loaned me an article to read, that he had just translated. (Published in the Feb. No. of the *Vet. Mag.*)

Cases No. 1, No. 2 and No. 3 had all been standing in for two or three days.

Cases No. 2 and No. 3 had been fed on the best of oats. Weight 44 pounds per bushel.

The feed was said to have been cut down to half rations.

(?) At the time of their coming down, in all three cases, there was a sharp change in the weather. The weather was cloudy, raw, sharp and damp. In Case No. 3, there had been a change in the temperature of over forty degrees, in from twenty-six to thirty-six hours. They were all free working horses, such as were likely to overdo, if allowed to. I can but believe that the feed and weather are the two important factors together with a lack of proper and much needed exercise.

THE PLEASURE OF BEING A VETERINARIAN.

By J. C. Michener, V.S., Colmar, Pa.

A Paper read before the Pennsylvania State Veterinary Medical Association, March 4.

Occupation helps form character. Different callings bring into play and develop special faculties.

As the business, so the man. A person may engage in a monotonous routine business, like a special part in a great factory, to which he becomes so accustomed as to act in an automatical manner, and become, as it were, a part of the machinery, exercising scarcely more thought than the mechanism that his hands direct.

It is one of the charms and advantages of our profession, that the practitioner must think and act for himself.

It is pre-eminently an intellectual occupation, and one's success is measured by his powers of observation and ability to determine the requirements of the manifold conditions in which he finds his patients.

The practitioner soon gains a keen realization of the necessity of being wide awake to take in the situation and anticipate the conditions that will arise and be ready to meet them, as the game player. It is when he becomes equally fascinated and when every failure makes him more determined that he is on the road to success and honor, instead of the disaster and ruin which overtakes the gambler.

As practitioners we know the difficulties encountered, the great care and close observation required to make correct diagnosis and prognosis, control our patients and satisfy our patrons in a business point of view.

In real abilities required, we lose nothing when put in comparison with the noblest of all professions.

Our patients suffer from equally numerous and intricate diseases, require as skillful surgery, but *fortunately* they are mute. We *must* learn the symptoms of diseases. The language of every attitude and movement.

We do not *ask* to have a pain located and described, but make it out for ourselves. Put the human and veterinary practitioner each in the field of the other and we would be at least equally successful.

Prognosis is one of our essential acquirements, we must tell at the onset, the duration and result of the disease, the trouble and expense it will involve, the outcome of malformations, predispositions, freaks of nature or odd behavior in order to give our clients sound advice from a business point of view.

This required knowledge is not of the horse alone, but of all living creatures over which man has control.

Who can mention a business requiring a more diversified knowledge, more close observation and better judgment?

Skill is always appreciated. We honor the person who can do something beyond the capabilities of ordinary mortals, hence our profession opens a field of rare usefulness, honor and moderate profits, all of which lends rational abiding pleasure to our calling.

As you practitioners well know, it is not all fair sailing, the difficulties are great and mistakes are censured unmercifully.

Fortunate that it is so. It teaches us caution, develops our manhood, makes us self-reliant and strong.

Our facilities for intercourse with our fellow men, the gratitude and friendship accorded us, are among the substantial pleasures that fall to our lot.

I imagine the country practitioner is in better touch and sympathy with his patrons, than his city brother.

The farmer cares for his own stock. He receives the Vet. as his guest, they become interested in each other, and a lasting friendship results.

It is very pleasant and exhilarating to sit behind a good roadster and glide along amid the beauties of Nature, and receive the friendly greeting of those one meets on the road.

It is a great source of pride and pleasure that the veterinary art is rapidly gaining recognition and prominence among the professions and that the time is growing short in which unworthy persons shall find employment because there are not enough qualified men to fill the public want.

We should all take pride in our business and do our utmost to have a good class of men, thoroughly trained, in whose hands to place its keeping.

SHOEING.

By E. L. Morgenroth, M.D.C., Bottonville, Wis.

A Paper read before the Wisconsin Association of Veterinary Graduates.

I have chosen this subject for the reason that there is so little said and published in the veterinary journals of the day about this very important subject. The following is intended more to bring out an expression from the profession than with any thought of contributing anything worthy of note.

While writing on this subject, it is necessary now and then to touch upon the general structure and morbid condition of the foot. "As an organ of support, the foot has an essential duty, since it is through it that the entire machine is put into connection with the ground, while the point at which it is placed is in fact the support of the limbs, on which all the locomotive agencies work; as an organ of elasticity, its duty is no less important when it is considered what enormous forces the result of weight of the animal, combined with its powerful muscular contractions, all bearing on that apparatus, and that it is the means of neutralizing the concussions, which without it would be fatal to the entire mechanism and particularly the limbs. As an organ of touch the foot of the horse is, in spite of its horny envelope, a very delicate organ; this is proven by the great number of nerves which anatomy shows to enter into its organization, the knowledge which it possesses of the condition of the ground over which it moves, and on which it preserves its equilibrium at different paces, whatever may be the form of the ground.

Not ten per cent. of the horses shod a few years by the system in general use, have sound, healthy feet; contractions and its consequences, corns, quarter cracks, thickening of the lateral cartilages, inflammation and ulceration of the navicular bone and coffin joint, with other changes of structure that make the horse liable to soreness or incurable lameness; while horses having sound, healthy feet are the exception.

This could be prevented or cured by good shoeing and proper treatment. However, these faults are not wholly to be accounted to the shoer. The man who scoops out and rasps the foot persistently to make it look artistic, puts the most iron into the shoe, and nails it on so firmly that it will remain so indefinitely, and works the cheapest, usually gives the best satisfaction, the owner believing he is getting the most for his money, the health of the foot and comfort of the animal being a matter of secondary consideration.

The foot is, next to the eye, the most beautiful and perfect in details of its structure, it is in every particular the most perfectly adapted of any part of the body for giving the greatest possible strength and elasticity, and if not interfered with is capable of sustaining all the strain and wear to which it can be reasonably subjected. But when exposed to causes which bring about disease and change of structure, there are also involved to a greater or lesser degree the health and mobility of the entire limb. This being true, we want to learn, if we can, the causes of these derangements, and how to prevent as well as overcome them. Horses shod with the most care according to the foregoing principles, the bottom of the foot and frog abundantly cut away and scooped out, the whole made artistic by rasping down the outer surface of the hoof, have the worse condition of feet;

while those shod most carelessly or quickly, barely levelling the wall, without regard to sole or frog, and nailing on the shoe with perhaps a few hurried rakes of the rasp under the clinches, maintain the best condition of health.

The object of shoeing is to prevent excessive wear, give power, and prevent slipping, which necessitates the following conditions:

The preparation of the foot, the weight, form and fitting of the shoe and nailing it to the foot.

1st. In preparing the foot for the shoe, the aim should be to cut away so much of the wall as would be a surplus of growth, or so much only as would bring it back to its natural form and adjustment; if it is desired to be particular, the shoer should see how the feet are carried in a sharp trot, whether too high or too low, or whether he travels too close, endangering interfering or cutting. The foot can then be taken up, when a look from the heel forward will enable an experienced shoer to determine how much and what part is to be cut away, to level it to the proper proportions, and the faults if any can be modified or corrected.

2d. The shoe should be formed so that when on, the adjustment of the foot, or its power to obtain hold or grasp upon the ground, be as nearly as possible as it was before being shod.

3d. It should be nailed on firmly, yet so as to break or weaken the wall of the hoof as little as possible, and not interfere with the freedom of the quarters, or enlargement of the foot as it grows. The shoe when on must exert no undue pressure upon any part. In the state of nature, the bones of the foot are so nicely adjusted and balanced by the ligaments and tendons of the limb, that there is no unequal strain brought upon any joint, but each assists in supporting the others, but if the heels are raised too high there will be an increased strain brought upon the anterior ligaments and tendons, and if the toe is too high, there will be an increased strain on the back tendons; in like manner raising or lowering the inner or outer quarter, would produce a lateral strain upon the joints and ligaments, which must ultimately cause serious injury and cause the foot to grow out of line.

If the horse travels too high and it is objectionable the shoes should be light, if too low they may be increased in weight; if liable to interfere or strike set the shoes close under the wall at the point of striking; the offending part should be shortened or straightened a little, and that there be no nails driven there, the clinches of which would soon rise and cause cutting. The edge of the shoe should be levelled and filed smooth. Lightness of the shoes is always desirable on the hind feet, and if the season of the year permits, tips will be found very effective in prevention of interfering. It can also be prevented by making outside web of shoe heavier than the inside, or by using an ordinary toe weight on the outside of the foot.

Clicking or Overreaching.—This may be due either to a faulty conformation, to weakness or to disease. To remedy this defect we must discover its cause. If it is due to defective form we may so adjust the hoofs and apply the shoes that the feet shall be placed upon the ground in such relation to the body as to modify in some measure the fault of the form. In some cases, weights or heavy shoes on the forward feet and light shoes on the hind feet will prevent; while in others, weights upon the outside of the hind shoes overcome the difficulty.

Stumbling.—This is usually associated with some diseased condition of the foot. In the prevention of this disagreeable and dangerous habit, particular attention must be given to preparing the foot; see that it is of equal depth on each side of the toe. This can be best ascertained by standing in front of the horse and comparing the two sides. In fitting the shoe, bend up the toe, giving it the shape of one well worn. If calks must be used, weld toe calk well back to inner margin of the web, making it low and level anteriorly.

Shoeing for Contraction.—Contraction may be divided into three different classes: 1st. A general compression or drawing in of the wall upon the vascular structure. 2d. When but one or both quarters are drawn in. 3d. When the heels are curled in or pushed forward under the foot. Therefore the prevention and cure of contraction must depend upon removing excess of horn, frog pressure and freedom of the quarters, or if necessary opening them mechanically as desired and upon moisture. If the feet could have conditions that would afford natural moisture, and the shoes made so thin that the frog and the sole could have reasonable contact with the ground, the quarters so free that they could expand with the growth of the foot, there would be little if any contraction. We see that in all cases where there is reasonable frog pressure, it becomes larger, firmer and more elastic, while raising the frog from the ground or contact causes it to become small and hard, the quarters to draw in and the whole foot to diminish more or less in size; if there is but little contraction, with fairly good condition of the feet, all that is necessary to do is to level down the foot, remove any surplus of horn from the sole and put on tips and keep the feet soft by moisture. But for a bad condition of contraction more direct and positive treatment will be necessary. If the frog is small and the sole forced upward, the whole internal structure locked and tied, as it were, by severe compression of the wall, three conditions are necessary:

1. Complete elasticity of the quarters and sole.
2. To open the quarters so as to relieve pressure and allow the sole to settle back to its natural position.
3. Gradual frog pressure.

The first important step is to thoroughly soften the feet. This being accomplished, an ordinary shoe or tip properly adjusted will soon remedy the defect. In shoeing for quarter cracks, give entire freedom to the affected quarter by cutting down between the bar and frog and remove all loose parts; use a bar shoe and see that there is no pressure on the affected quarter, then blister the crown or apply some stimulating liniment or hoof ointment.

For corns, remove the horn or part of the shoe so that there will be no pressure on the affected parts. In severe cases use a bar shoe or tip. With sore and tender feet, great care should be taken in taking off and nailing shoes on such feet not to wrench or hammer the foot heavily. In nailing the strokes should be light and the clinches barely sufficient. Anything in the way of hard, tight nailing should be avoided. In tender feet or weak heels we usually find a strong frog. In such cases a bar-shoe properly adjusted would be all that is necessary. There are also several kinds of pads or foot cushions which can be used with good results.

Foundered Horses.—If the mobility of the foot is destroyed as a result of chronic founder, mobility must be aided by rounding the entire shoe or toe. If the foot is entirely stiff, the shoe must be so formed that it will roll upon the ground, which can be easily done by leaving the inner edge of each side of the shoe wide, and turning it down in a half circle. If the sole is broken down, or the wall separated at the toe, weight will be thrown more upon the heels, and for such cases the shoe must be so fitted as to extend well back under the heels. If calks must be used, set toe calk well back to inner margin of web and level anteriorly.

COLLEGE COMMENCEMENTS.

AMERICAN VETERINARY COLLEGE.

The twenty-first annual commencement exercises of the American Veterinary College took place on the evening of Wednesday, March 25th, at Chickering Hall, 18th Street and Fifth Avenue, New York City, and the hall was well filled with the friends of the graduates and of the college. Delightful music was supplied by the Seventh Regiment Band, and the Rev. Robert S. McArthur, D.D., opened the exercises with prayer. Prof. W. J. Coates, Dean pro-tem. of the Faculty, read his report for the year, after which Faneuil D. Weisse, M.D., President of the Board of Trustees, conferred the diploma of the college (which confers the degree of Doctor of Veterinary Surgery—D. V. S.) upon the following gentlemen: Clarence Linwood Adams, Danielson, Conn.; Alfred Frederick Bollinger, Brooklyn, N. Y.; John Sutherland Buckley, Mount Washington,

Md.; Samuel Sutherland Buckley, B. Sc., Mount Washington, Md.; George Cohen, New York, N. Y.; Cyrus Harvey DuBois, New Paltz, N. Y.; John Daly Gogerty, New York, N. Y.; Robert Walter Grutzman, B. Sc., Strasburg, Germany; Leland Delano Ives, Wallingford, Conn.; Edward Nathaniel Leavy, New York, N. Y.; August Frederick Lange, San Antonio, Tex.; Thomas Jewett Lee, East Granby, Conn.; Michael Joseph Murphy, Jr., New York, N. Y.; George W. Mead, Jr., Brooklyn, N. Y.; Harrison Price Monk, Brooklyn, N. Y.; Percival King Nichols, Port Richmond, N. Y.; Herbert William Pratt, Rome, N. Y.; Henry Wilson Peter, Saegersville, Pa.; John Passmore Rauch, Memphis, Tenn.; John Goddard Richardson, Portland, Me.; William R. Rosekrans, New York, N. Y.; Christian Rothaug, Brooklyn, N. Y.; Charles Henry Tilton, Jr., Ashland, Mass.; Robert Clarkson Vail, Rahway, N. J.; Charles Robert Witte, New Britain, Conn.; Frederick Adolph Zucker, New York, N. Y.

After the distribution of the diplomas Prof. L. H. Friedburg, Ph.D., of the Faculty, in well-chosen terms, awarded a number of prizes for special excellence in various branches and departments, John S. Buckley, D. V. S., receiving the gold medal of the Board of Trustees, for the best general examination in all the branches; his brother, Samuel S. Buckley, B. Sc., D. V. S., taking the prize offered by the Alumni Association for the second best general examination; the gold medal of the Faculty to the student passing the best practical examination before a committee of veterinarians practicing in New York and Brooklyn was conferred upon Frederick A. Zucker, D. V. S.; Herbert W. Pratt, D. V. S., receiving the prize offered by the President of the College Medical Association for the best written and defended paper upon a medical subject read before a meeting of the association. The prize of a full year's scholarship, value $100, for the best general examination by a student of the second year, was won by Mr. George F. Westcott, while the first year half scholarship, value $50, fell to the fortune of Mr. Rogers F. Twombly. The anatomy prize for first-year students was awarded to Mr. J. A. Pistor.

Edward Nathaniel Leavy, D. V. S., of the graduating class, then delivered a most interesting valedictory address, which was much enjoyed. The address to the graduates was delivered by Prof. J. W. Dowling, M. D., of the Flower Hospital Medical College, and was one of the happiest in the history of the American's commencements.

ONTARIO VETERINARY COLLEGE.

The closing exercises of this institution were held on Saturday, March 28, when the following list of graduates received their diplomas: William Agnew, Belgrave, Ont.; F. A. Armstrong, Fergus, Ont.; T. H. Agnew, Evanston, Ill.; S. Beattie, Waterloo, Wis.; R. J. Bestul, Grafton, N. Dakota; J. F. J. Black, Dublin, Ireland; P. D. Bray, Cannington Manor, Assa., N. W. T.; A. Brechter, Beaver Dam, Wis.; W. G. Bunnell, Heywood, Manchester, Eng.; B. A. Brown, Highbury, London, Eng.; F. Braund, Jr., McGregor, Man.; P. Cain, New Perth, P. E. I.; M. Chrisman, Frewsburg, N. Y.; J. L. Clark, Stratford, Ont.; K. Clark, Cooperstown, N. Y.; E. W. Culley, Avon, N. Y.; H. Caldwell, Louisville, Ky.; J. Cramer, Elwood, Ind.; R. H. Craig, Bushton, Ill.; J. A. Campbell, Teeswater, Ont.; E. Dingman, Maplewood, Ont.; R. A. Dennis, Adams, N. Y.; J. R. Donahue, St. Thomas, Ont.; C. H. Drake, New Haven, Conn.; F. J. DeLand, Clinton, N. Y.; A. F. Elliott, Grandin, N. Dakota; H. T. Ferguson, Lake Geneva, Wis.; J. D. Finch, Ramseys, N. J.; A. B. Gay, Randolph, Vermont; B. F. George, Overton, Ohio; J. F. Gillespie, Ridge Farm, Ill.; W. J. Grady, Quincy, N. Dakota; N. O. Gilbert, Brooklyn, N. Y.; A. Gibson, Berlin, Ont.; L. Hay, Warsaw, Poland; C. Haas, St. George, Ont.; W. W. Hall, Leeds, P. Q.; A. B. Hecker, Albany, N. Y.; J. B. Hill, Canandaigua, N. Y.; R. F. Hoadley, Yorkville, Ill.; W. E. Howe, Delphi, N. Y.; W. N. J. Hurt, Matlock, Bath, England; A. P. Husband, Nassagaweya, Ont.; T. M. Hadwen, Wheatland, N. Dak.; G. R. Inglis, Campbellville, Ont.; J. J. Irwin, Sheffordvale, P. Q.; R. E. Jackson, Tyler Hill, Pa.; P. H. Johnson, Racine, Wis.; J. E. Johnston, Texas, Ohio; E. H. Judkins, Ohioville, N. Y.; C. P. Keith, Bridgewater, Mass.; T. L. Kelly, Lakeside, Ohio; J. C. Kingan, Pittsburg, Pa.; R. Kjermer, Rochester, Minn.; W. H. Kenwell, Cuba, N. Y.; J. Lawrason, St. George, Ont.; H. L. Leberman, Meadville, Pa.; W. S. Longacre, Mantz, Pa.; J. T. Leary, Ellicottville, N. Y.; N. G. LeGear, Imlay City, Mich.; J. D. Macdonald, Jr., London, Eng.; R. W. McDonald, Jackson, Mich.; A. J. McKay, Tavistock, Ont.; C. H. McGillicuddy, Lewiston, Maine; D. Maher, Godfrey, Ill.; H. E. Marshall, Ottawa, Ont.; G. R. C. Merriam, Negril, Jamaica, W. Indies; S. Moore, Lowell, Mass.; L. Mulligan, Ottawa, Ont.; P. McNeal, Shickshinny, Pa.; W. N. Neil, Tower Hill, Ill.; B. E. Nevel, Huntersville, Pa.; L. A. Nutting, Syracuse, N. Y.; J. Oliver, Jr., Columbus, Miss.; J. D. Paxton, St. George, Ont.;

H. C. Peters, Greenleaf, Minn.; J. O. Reed, Danville, Pa.; A. W. Reilly, Grand Valley, Ont.; L. T. Richards, Grandville, Ohio; J. L. Riddell, Denver, Col.; P. A. Robinson, Emerson, Man.; L. D. Ryan, Emporia, Kan.; H. R. Ryder, Delphi, N. Y.; F. G. Scammel, Lafayette, N. Y.; C. A. Seaton, Bloomington, Ont.; S. L. Shaw, Summer Hill, Ill.; G. F. Sheppard, Edinburgh, N. Dak.; T. V. Simpson, Yorkton, N. W. T.; J. J. Sparrow, Victoria, B. C.; R. J. Stanclift, Derby, N. Y.; W. C. Stephens, Newmarket, Ont.; D. A. Stewart, Ivan, Ont.; J. H. Summers, Oswego, N. Y.; Z. Strong, Carleton Place, Ont.; J. A. Stevenson, Morden, Man.; F. C. Simpson, Bridlington, Quay, England; J. W. Tooley, Lansing, Ont.; J. Turnbull, Lowville, Ont.; J. H. Vrooman, Vroomanton, Ont.; R. E. Willis, Brampton, Ont.; A. R. Walsh, Buffalo, N. Y.; W. Walker, Kingston, Ont.; M. A. Whimster, Portage la Prairie, Man.; E. J. Will, Moore's Store, Virginia; A. E. Williamson, Queenstown, Ireland; D. B. Wilson, London, Ont.; G. E. Wilson, Carleton Place, Ont.; F. L. Wingate, Kingston, Jamaica, W. I.; R. W. Wilkinson, Drumbo, Ont.; A. C. Woods, Council Bluffs, Iowa; A. G. Young, Bristol, P. Q.

NEW YORK COLLEGE OF VETERINARY SURGEONS.

Departing from the established custom of having public commencement exercises, this college had its services in the hall of the college, on April 1st, when the Oath of Hippocrates was administered by the President of the College, and the prizes and diplomas were awarded, the following gentlemen receiving the degree of V. S.:

Louis Abel, Brooklyn, N. Y.; Joseph Cohen, New York; John Hambleton Dedrick, Schenectady, N. Y.; George Clarke De Witt, Oak Hill, N. Y.; James Thomas Glennon, Newark, N. J.; William Patrick Hanifin, New York; George Ferdinand Horpel, Jersey City, N. J.; Milton Daniel Harper, Philadelphia, Pa.; John Francis Harrison, Stamford, Conn.; George Edgar Harder, Pittsfield, Mass.; Augustus F. Johnson, New York; Samuel Henry Johnson, Philadelphia, Pa.; J. Homer Luff, Paterson, N. J.; Eckford S. C. Littlefield, Brooklyn, N. Y.; James Francis Laden, New Haven, Conn.; J. Brown MacNeil, Albany, N. Y.; Charles Emerson May, Avon, Mass.; Daniel Gerald O'Connell, Brooklyn, N. Y.; Nathan Peyser, New York; Thomas Michael Quinn, Astoria, L. I.; William Riley Rhinehart, Inwood, L. I.; Robert Guernsey Rice, Rome, Pa.; Joseph Schnurmacher, New York; Charles Rinear Scattergood, Brooklyn, N.

Y.; Major Schofield, Brooklyn, N. Y.; John Tjaden, New York; Charles Robert Utz, Freeport, L. I.; Max Wendel, Middle Village, L. I.; Walter Herbert Yingst, Harrisburg, Pa.

The exercises at the college were followed by a dinner of the faculty and graduating class at the Hotel Marlborough, about sixty sitting down to the banquet table, when the following stated toasts were responded to:

The New York College of Veterinary Surgeons, H. M. Biggs, M. D., President of Trustees; The Trustees, C. C. Savage; Practice, H. D. Gill, V. S., Dean of Faculty; Good-fellowship, M. Schofield; The Alumni, J. H. Ferster, V. S., President of Alumni Association; The Future, C. R. Scattergood; The State and Veterinary Science, R. W. Hickman, Ph. G., V. M. D.; The Student, T. M. Quinn; Post-Graduate Study, W. Lellman, D. V. M. Toast Master, J. H. Huddleston, M. D.

KANSAS CITY VETERINARY COLLEGE.

The fifth annual commencement exercises of this college were held in the Masonic Building, March 19. The address to the students was delivered by Prof. Wolf, and President Wattles presented the diploma of the college (conferring the degree of D. V. S.) upon the following gentlemen: Frank H. Ames, Waverly, Mo.; Albert A. Immel, Springfield, Mo.; William A. Cock, Clinton, Mo.; Charles F. Hickman, Galena, Kan.; Edward L. McCrea, Lamar, Mo.; Elwood J. Netherton, Gallatin, Mo.; Samuel Sheldon, Turney, Mo.; William N. Hobbs, Kensington, Kan.; James C. Keeley, Waterford, Ireland.

McKILLIP VETERINARY COLLEGE.

As this college had no senior class, the exercises consisted of addresses to the students upon the principles of the profession, interspersed with good advce to the embrional veterinarians. The following students received certificates for admission to the graduating class of 1897: H. S. Caldwell, O. R. Dubia, J. B. Boomer, H. O. Davis, George Danderan, of Illinois; W. S. Powell, J. H. Crawford, of Wisconsin; W. P. Ellenberger, E. Merillat, of Ohio; J. G. Tyner, of Indiana; George R. White, of Tennessee; C. N. Ferrier, E. H. Brown, of North Dakota.

INDIANA VETERINARY COLLEGE.

The exercises were held in the College building, 24 South East Street, Indianapolis, March 13, when addresses were delivered by President Armstrong and W. S. Tomlin, M. D. Remarks were indulged in by members of the faculty, and responded to by F. A. Muller, Ph. G., of the graduating class. The degree of the college was conferred upon the following gentlemen: F. A. Muller, Ph. G., Indianapolis, Ind.; H. E. Smock, Indianapolis, Ind.; Charles Regar, Silver Lake, Ind.; W. R. Ramsey, and F. Osborn. Charles Regar won the first prize on surgery, lameness, and shoeing, which consisted of a surgery and shoeing case.

CHICAGO VETERINARY COLLEGE.

On March 24th the thirteenth annual commencement exercises of this college were held in the College Auditorium. On the evening previous a banquet was tendered by the trustees to the faculty and graduating class at the Sherman House and a most enjoyable evening was spent. The week preceding the date of the graduating exercises was taken up by the final examinations, the results of which were that twenty-eight students passed. Of this number eight passed in honors, Dr. E. J. Davidson receiving the gold medal of the college for the highest general average. Dr. Davidson also received the prize for the highest standing in theory and practice. Dr. E. Jentzsch won the prize for the best standing in anatomy, and Dr. Walter Bolton the prize for the best examination in chemistry.

The Chairman, Dr. A. H. Baker, commenced the proceedings by reviewing at length the progress of the institution since its organization in 1883, and in the course of his address stated that this was a most fitting time to announce that henceforth the college course would be extended from two to three sessions, covering three years instead of two as heretofore. He then conferred on each member the degree of Doctor of Comparative Medicine and presented the diplomas. The class valedictarian, Dr. A. C. Worms, then delivered his address and was followed by Dr. A. S. Alexander on behalf of the faculty. Dr. E. R. Flack delivered the class prophecy, after which Dr. Schwarzkopf addressed the faculty and graduates, and in doing so he highly complimented them on the change to a three session course.

The following is the list of graduates and their present location: W. Bolton, Waukesha, Wis.; R. L. Brown, Janesville, Wis.; C. E. Brownback, Pleasant Plains, Ill.; O. F. Butterfield, Leithton, Ill.; E. J. Davidson, Grand Forks, N. D.; Edwin Dickinson, Fayette, Ia.; G. K. Dodson, Los Angeles, Cal.; F. A. Dolton, Dolton, Ill.; Henry F. Eckert, Reeseville, Wis.; E. R. Flack, Milwaukee, Wis.; J. W. Foster, LaFayette, Ind.;

D. J. Halloran, Hortonville, Wis.; E. M. Herrin, Highland, Ill.; J. G. Hope, Chicago, Ill.; E. Jentzsch, Chicago, Ill.; E. A. Johnson, Platteville, Wis.; M. H. Kyle, Highland, Ill.; N. W. Kyle, Colfax, Ill.; J. A. McGarry, Milwaukee, Wis.; W. J. Malone, Springdale, Wis.; F. McCoy, Lake Odessa, Mich.; C. G. Nelson, Chicago, Ill.; J. H. Pear, Chicago, Ill.; F. R. Pierce, Dows, Ia.; F. P. Scott, Petersburg, Ill.; Wm. Voss Kiel, Wis.; C. H. Whitwell, Dubuque, Ia.; A. C. Worms, Chicago, Ill.

PEROXIDE OF HYDROGEN.

By Warren Brown, M.D., Tacoma, Wash.

Read before the Washington State Medical Society, May, 1895.

This is usually made by the decomposition of hydrated peroxide of barium by sulphuric acid. It is employed in the arts for bleaching. The usual commercial article yields about ten volumes of oxygen.

Dr. Benjamin Ward Richardson, the famous London physician, who in 1893 received knighthood from Queen Victoria, first experimented with peroxide of hydrogen in 1857. It was regarded then as a curiosity, and was soon forgotten. Thirty years later, Dr. Squibb, of Brooklyn, brought it prominently before the profession, and since that time it has been used more and more each year, until its consumption has reached enormous proportions.

In order to preserve hydrogen peroxide it must be slightly acid; on this account, a disagreeable irritation and smarting may be caused by its use on mucous membranes. This can be avoided by mixing it fresh at the time it is to be used with equal parts of lime water, or spraying with lime water first.

It effervesces not only with pus, but with blood, serum, mucous and cerumen. It is one of our best antiseptics, and it is of the greatest value in removing septic clots and enveloping fluids before making application of other drugs.

As a bleaching agent, in skin practice, it is constantly used in removing pigmentary stains, and may always be tried before resorting to bichloride of mercury in the treatment of freckles and chloasma. Discolorations of the skin and nails caused by the aniline dyes, chrysarobin, pyrogallol, sulphur, and permanganate of potash will yield to this excellent bleaching agent. Nearly all of the patent hair bleaches on the market contain peroxide of hydrogen.

Gonorrhœa may often be aborted by using a full strength hydrogen dioxide injection immediately on the very first appearance of discharge. The meatus should be closed and the solution retained for five minutes. The injection should be used four to six times in twenty-four hours. This drug is only of value in the incipient stage.

Cystitis, where pus is voided with the urine, often yields rapidly to injections of a solution containing two ounces to the pint.

Otitis media is treated by hydrogen dioxide solutions in various strengths from 6 per cent. upward. It is an almost indispensable agent in these cases.

Eye diseases, where there is a purulent external inflammation, are constantly being benefited by this agent. The Wills Eye Hospital, Philadelphia, uses a 50 per cent. strength of the so-called 15 volume solution. Blepharitis marginalis is quickly cured by touching the edges of the lids once or twice daily with a strong solution, taking care to avoid getting it into the eye.

Ulcers of all kinds improve rapidly under its use, granulations are stimulated and surfaces freshened. For treating and cleansing venereal sores, as chancroids, etc., it is of great service.

Empyema, especially where there is from the first a stinking, sanious exudation following incision, is very satisfactorily treated by washing out the cavity with a solution from one-half to full strength.

Dr. Noble, of Philadelphia, commends this agent for cleansing the hands preparatory to abdominal operations when the skin about the nails has become horny and rough from frequent contact with antiseptic solutions.

In appendicitis, the abscess cavity is cleansed with this solution by many operators, in preference to any other antiseptic. Robert T. Morris, of New York, has laid special stress on the value of the peroxide in these cases.

In follicular tonsilitis, the use of a spray, diluted just enough to prevent the smarting sensation, and alternating with this one of the alkaline antiseptic sprays, or gargles, is a very satisfactory procedure.

Diphtheria and all naso-pharyngeal inflammations where there is a pseudo-membranous and septic condition, have been treated very widely by means of this agent. I like the plan of Jennings in Detroit, who uses an irrigation of an aqueous solution of one-eighth each of hydrogen dioxide and listerine. He throws the solution into the pharynx with an all-soft rubber syringe every one, two or three hours. The plan is an admirable one for treating children, and the combination is pleasant and effective.

Atrophic rhinitis is benefited remarkably by the use of a 40 per cent. spray. It should be used a few minutes before the employment of the usual alkaline, stimulating spray, and the powder insufflations. In this way the scabs are loosened, mucopurulent secretions are dissolved, and a stinking breath is converted into one that is pure and sweet.

In acute cases of eczema of the leg, we find this agent of the utmost value. The tissues are inflamed, hot, swollen and oozing, the itching is almost unendurable, the odor is offensive. To secure the best results the limb is elevated, and a diluted solution of the peroxide is applied frequently, with cheese-cloth, gauze or an atomizer. In two or three days a marked change for the better will be apparent, the pruritus is allayed, the purulent exudation is checked, and all inflammatory symptoms are subsiding. At this stage we begin the use of a soothing ointment, such as the boracic acid or zinc oxide, using lime liniment to wash the parts instead of water. Under this treatment, combined with rest, we will see our patient rapidly cured.

Eczema of the anus will rapidly improve if the fissures are touched twice a day with this solution, then dried gently with cotton, and a glycerite of lead application made. In nearly every form of acute eczema in the first and second stages the peroxide will give us the keenest satisfaction. The regular solution is diluted with two or more parts of water. Hydrogen peroxide is an excellent anti-pruritic and for this purpose it is widely used.

The hæmostatic value of this drug as pointed out by Dr. Emerson Brewer of New York, I can endorse. In operations on the nose and throat I have upon two occasions been enabled to check a persistent hæmorrhage, when Monsel's solution and plugging had failed. At present I am in the habit of applying the full strength hydrogen dioxide after every operation on these parts. It is of special value after sawing out a deviated septum.

For flushing out a mammary abscess cavity this agent is invaluable.

Applied to the cervix uteri, adherent mucous is removed and our medications can be applied.

Where it is inadvisable or impossible to make a complete opening of a fissure or abscess, irrigation with the peroxide will be found superior to all other antiseptics.

We have in peroxide of hydrogen a prompt, safe and efficient germicide. By its oxidizing power it rapidly decomposes pus, diphtheritic membranes, and other morbid putrifying material. It is a thorough deodorizer, and as a cleansing agent for foul wounds, abscesses, etc., it has no equal.

Of the different preparations of peroxide, Marchand's has been most uniformly satisfactory.

BIBLIOGRAPHY.—Piffard, Jennings, J. Lewis Smith, Noble, Morris and others, as well as the current medical journals.

Since writing the foregoing paper my attention has been called to hydrozone, a stronger solution of peroxide of hydrogen, which for some months I have been using with much satisfaction.

BIBLIOGRAPHY.

PRÉCIS DU PIED DU CHEVAL ET DE SA FERRURE. (Treatise on the Horse's Foot and its Shoeing.) By Professors F. Peuch and X. Lesbre, of the Veterinary School of Lyon. Asselin and Houzeau, Paris.

A work dedicated to the memory of Henri Bouley, divided in two parts—one treating of the anatomy and physiology of the foot of the horse; the other, of its shoeing; this last being divided into three sections: history of shoeing, shoeing of the normal foot, and that of the diseased and defectuous foot,—followed by an appendix containing information upon the shoeing of mules, donkeys, and oxen. The book is illustrated with 300 wood cuts.

In the gathering of the work the authors have obtained much help from the original work of Bouley and from more recent publications in France and other countries, such as those of Goyau, Lavalard, Delperier, Dangel, Aureggio, Pader, Jacoulot, Chomel, Brambilla, Fogliata, Leisering, Hartmann, Lungwitz, Dominick, Moller, Fleming and others, besides numerous advantages that the clinical services of the Lyon School has offered.

BIOGRAPHIES VÉTÉRINAIRES (Biography of Veterinarians)—By Prof. L. G. Neumann of the Veterinary School of Toulouse. Asselin and Houzeau, Place de l'Ecole de Médecine, Paris, Seine. With 42 likenesses drawn by the author.

In this most interesting work of a little over 400 pages, the author has succeeded in gathering from the numerous publications, where they were buried, positive documents upon the life and the work done by men, who, in various points of view, have occupied in the veterinary profession an important place, and who, by their efforts, have most contributed to its elevation. To the long list of veterinarians, are added the names of several physicians and of naturalists, who have written upon the diseases of domestic animals and among whom some have principally contributed to the progress of that branch of medical science.

The necrologic collection which is thus presented goes back to the first times of history, extends to our days and includes hippiatres and veterinarians of all countries. Of course, written in French, by a Frenchman, the veterinarians of his own country occupy the largest part of the book; but, nevertheless, foreign veterinarians have not been ignored and names familiar to our present generation and specially to American veterinarians will be found in Prof. Neumann's new book.

Justice must be given to the author, for his impartiality of judgment. The biographies are not what they generally are, that is eulogious—blame and criticism play the part which were due to a few. By so doing, Prof. Neumann has done well: men are better known after their death and their work better judged.

We have read "*Biographies*" with great interest and feel that all veterinarians desirous to know those who have worked for veterinary science, will derive much pleasure in studying it.

The book is presented by the world wide known house of Asselin and Houzeau, Place de l'Ecole de Medecine, Paris.

PRACTICAL TOXICOLOGY, by Dr. R. Kobert, of the Pharmacological Institute in Dorpat, Russia. American edition by L. H. Friedburg, Ph.D., Professor of Chemistry and Toxicology in the American Veterinary College, New York, and at the Flower Hospital Medical College. New York: W. R. Jenkins, 851 and 853 Sixth Ave.

The long-felt want of a practical work of this kind for the use of veterinarians and students is by this announcement at last to be overcome. The study of these branches in veterinary colleges is always a matter of considerable difficulty, on account of the immensity of the subject, and the practical teaching of toxicology as related to veterinary medicine has always been confined to the most meagre outlines. The character and capacity of the American author of the work which is here announced as in course of publication are a sufficient guarantee of the thoroughness of its execution, and his experience as a teacher in a veterinary college is sufficient to give him the necessary knowledge of what will be most practical and useful for the veterinary surgeon.

ELECTRICITY IN ELECTRO-THERAPEUTICS, by Edwin J. Houston, Ph.D., and A. E. Kennelly, Sc.B. New York: The W. J. Johnston Co., 253 Broadway.

The publication of this neat volume of 400 pages is intended to meet a demand on the part of both the general medical practitioner and the public for reliable information respecting such matters in the physics of electricity applied to electro-therapeutics as can be readily understood by those not specially trained in electro-technics. The attainments of the authors for both practical and technical work, by their special training, renders the publication of this work under these conditions especially valuable and reliable to those interested.

REPORTS OF CASES.

A PECULIAR ACCIDENT—RUPTURE OF THE ŒSOPHAGUS.

By W. H. Gribble, D. V. S., Washington C. H., Ohio.

On a warm, sunny Friday afternoon two three-year old colts, the property of Glisson Bros., near Washington C. H., Ohio, were seen at play, rearing, jumping, and nipping each other; both were seen to stand as erect as possible on their hind limbs, facing each other, and then drop to natural position, when one of them walked soberly away and the other could not induce it to return to the fun.

At evening, when the colts were put into the stable, the one showed itself to be sick; it made a pretense of eating (at least the owner thought it ate), drank a little water, and showed a soreness on the left side of neck along the jugular furrow and especially a place about midway between sternum and pharynx.

Saturday morning the left side of neck was considerably swollen, about and below the place of most tenderness; hot applications and liniments were applied, but the swelling increased. During the day the animal drank some and the owner thought it ate a little hay.

Sunday morning I was called; and found a badly swollen neck, both sides (worse on the left), including the pectoral region, hot, tender pitted on pressure, all apparently œdematous; yet not a mark on the skin, or even a place where the hair was knocked off, that we could find. There was no discharge of saliva, the temperature was only 100° F., pulse 48 and respirations not enough above normal to take any notice of, and this two days after the accident; in fact, barring the stiffness and swelling of the neck, the animal looked well and moved about without difficulty, only holding its head very low.

On account of the swelling I made no diagnosis, but thought the trouble a rupture of the fibres of the mastoido-humeralis muscle, caused by over extension.

I passed a large seton through the skin in the medium fissure of the pectoral muscles and a constant dripping of fluid commenced and continued. Thin gruel was ordered kept before him, of which he partook sparingly; yet seeming to suffer no inconvenience from what little he did swallow.

Monday morning I was informed that the animal's head and upper part of the neck was swollen enormously, and the dropping from the seton almost stopped; in fact, suffocation was threatened. Not being able to visit the patient and presuming that the great swelling was due to holding the head so low, allowing almost all the serous effusion to gravitate to those parts, I ordered hot fomentations, and to tie the head up above the level of the breast, which in a short time caused the swelling to rapidly reduce, by the fluid gravitating down the neck and out by way of the seton. Tuesday morning I again saw the animal; the swelling was considerably less, and previous to my arrival he had eaten a few mouthfuls of hay. We offered him gruel, he attempted to swallow some, but apparently all he partook of returned to the bucket through the nostrils; he drank water with the same result. This had not happened at all before; for although drinking sparingly, all he drank seemed to stay down, so I presumed it due to the swelling pressing upon the œsophagus. On account of swelling I could find no pulse at jaw. The owner thought the colt tired, not having laid down for four days, and also, for reasons of my own I decided to throw him; so buckling up a front foot and pulling the head around to the opposite side, after a few efforts to keep from falling, the colt laid down.

In a few seconds he made a few desperate efforts to regain his feet, when suddenly as if in a moment, a great change came over the animal; he laid flat on his side, mouth open gasping for breath; breathing through the mouth, respirations hurried and heart so rapid we could not count the beats, and in a few moments, without a single other struggle, quietly died.

Imagine my feelings; the owner, his wife, sister and neighbors looking on. I must confess to feeling a little foolish, for with pulse, temperature, respirations and general appearance, I had not thought the patient at all dangerous, simply a bad bruise or a few ruptured fibres of a muscle.

I decided to at once make an examination of the neck; so, making an incision through the skin and swollen tissues at the place where the first soreness and swelling exhibited itself, I found the inferior border of the mastoido-humeralis muscle torn across (transverse) about two inches; and in the cavity thus made and surrounding parts, was a quantity of hay, bran, etc. On removing this, and making the incisions larger and longer, what was my surprise to find a longitudinal rupture of the muscular coats of the œsophagus for a length of nearly seven inches, and of the mucous coat for about three and a half inches, the swelling being, mainly, nothing but the fluids drank by the animal passing out through this rupture and circulating through the connective tissue, etc., and the reason why the gruel, water, etc., drank this morning had returned through the nostrils was due to eating the hay previous to our arrival, it having passed out through the rupture, filling the space and then acting as a choke. One can imagine the bare possibility of a transverse rupture of the œsophagus through over extension, but not, so it seems to me, a longitudinal one; yet, again, even if the colt had been struck or kicked by its playmate during the time it reared, is it not practically impossible to produce such an injury without at least cutting through the skin?

If one is at a loss to account for the accident, or how it could possibly occur, is it not more puzzling why, with such a dangerous trouble, it did not have a greater debilitating effect upon the animal; its danger, readily observable by pulse, respiration and temperature.

I removed about twelve inches of the œsophagus and photographed it, a print of which accompanies this description, and plainly shows the extent of the rupture.*

Will the editor or any veterinarian kindly offer some comments or explanation of the accident, and greatly oblige the writer?

LATER.—Since writing up the case I have experimented some, and think the injury *could* be done by one horse grasping the mastoido-humeralis muscle with his teeth, just when a horse rearing in the air is about to come down, as horses at that point always turn their head, making the neck curve convexly towards their playfellow and the teeth might so catch the œsophagus in behind the muscle, so tearing muscle loose, etc.

UTERINE FIBROMA.

By W. H. Curtis, D.V.S., Marengo, Ill.

I removed a fibroid tumor weighing two and a half pounds from the vagina of a cow, which had calved the same day, and she made a good recovery.

---

* As the photograph was too indistinct to be reproduced, and as the correspondent's description is very clear, it is omitted.

FATTY TUMOR IN A DOG.

By W. H. Jackson, D.V.S., New York City.

On the 15th of March I was called by Dr. N—— (a physician) to see an Irish setter with a large, subcutaneous swelling located on the side of the chest wall, between it and the anterior extremity.

The history received was that about a year and a half ago, while in the country, the animal was slightly injured in the woods. After a short time a small swelling made its appearance and gradually increased in size for some fourteen months, when it grew much more rapidly and had reached an enormous size, so much so as to interfere with locomotion.

From an external point of view the swelling was more or less diffuse, non painful, rather hard to the feel except in certain points, where it was soft, giving an impression to the fingers that some fluid was present. The dog was otherwise apparently in perfect health.

The diagnosis was made of a possible subcutaneous fibroma with some fluid in the sac.

On account of the healthy condition of the animal, the prognosis given was favorable unless the brachial plexus be involved or some unforeseen complication arise. The treatment advised was an operation. The dog had been taken to other veterinarians, who wished to operate, but as they would not give a favorable prognosis and as the owner would only consent to the operation being performed in his presence and at his house, the operation was not performed by these men. Under the above conditions, I called Prof. H. D. Hanson in consultation, and to operate. This was March 17th. The dog was placed on a table and put partly under the influence of ether. An incision through the skin of some three inches was made at first in order to tell the exact condition of the underlying parts. This being ascertained the incision was enlarged to some twelve inches and the tumor practically enucleated with the fingers, the knife being only occasionally used. After some fifteen minutes the tumor was removed in its entirety and was found to be fatty, weighing seven pounds and four ounces. The operation was a grand success and practically bloodless. The large cavity remaining was thoroughly washed, packed with bi-chloride gauze and stitched temporarily to hold the dressing in place. A bandage was then placed around the body to keep the wound clean and to prevent the dog from licking it. The following day the gauze was r moved, the wound thoroughly cleansed and again packed and bandaged. The wound, although large, was simple, and had perfect drainage, the opening being at the most dependant part. Seeing that the dog was improving so nicely the physician notified me, after making some four visits, not to call again, as he could attend to the case himself. Whether the bandages were not kept on and the dog licked the wound and became slowly poisoned or what, I am unable to say, but he died some two weeks after the operation.

This possibly proves that the after-treatment in all of its details is often very important; also, that symptoms are apt to vary in the different animals, and are often totally unlike those of man.

STRYCHNIA IN THE TREATMENT OF PARTURIENT FEVER.

By W. H. Dalrymple, M.R.C.V.S., Baton Rouge, La.

On March 20th, at 10 A. M., the writer was requested to visit a high-grade Jersey cow belonging to a herd that supplies one of the large State institutions with milk. The attendant reported the cow having given birth to a fine heifer calf the previous night in a pasture lot adjoining the stable, and when seen by him at 6.30 A. M. was staggering in her gait and several times had fallen.

When we got there we found the animal lying on her side with her limbs stretched out, but not yet quite comatose, which, however, she became soon aftewards. Placed the cow in as comfortable a position as possible (on sternum), and propped her up with sacks filled with hay, got rid of the fœtal membranes and washed out the womb with an antiseptic solution; emptied the bladder, and unloaded the rectum, and as there was a good deal of tympany, punctured the rumen.

As the animal could still swallow, gave a saline cathartic.

Sponged the exposed part of the body with dilute acetic acid, and covered over with warm blankets.

About 11 A. M. commenced administering hypodermatically, an aqueous solution of sulphate of strychnia (Strych. sulph. grs. ss.; Aquæ, ʒ i.) every two hours. After four doses, the strength was doubled, and four other doses given. From about twelve to fifteen hours, the animal was in a perfectly comatose condition.

About 4 P. M. on the 21st, slight signs of returning consciousness were observable. The breathing which had been slow and stertorous, now became faster and altogether through the nasal passages. Slight lachrymation, showing the glands were resuming their function. A small evacuation from the bowels. Returning sensitiveness of the skin, exhibited by the movement of the panniculus to resist flies.

On our next visit, at 7.30 P. M., cow was lying in natural position without assistance, and partook of a gruel, which she seemed to relish.

At 8 P. M. she was on her feet.

From the time the animal first became affected, until she was up, must have been only about forty hours.

We may state that during the attack the cow was turned frequently from one side to the other; the udder kept stripped, and injections per rectum and vagina.

This case seems to be another added to the list of successes following the strychnia treatment, one of which was recorded by Dr. Herbert S. Perley as recently as the February issue of the REVIEW.

This treatment is recommended in Friedberger and Frohner's work, and of course can hardly be looked upon as new, although we do not think it is by any means in common use. It is certainly worthy of more extended trial, being, as it appears to us, extremely rational, and from results, promisingly successful.

MYELITIS IN A DOG—RECOVERY.

By ROBERT W. ELLIS, D.V.S., New York City.

My attention was called to the case in question on Jan. 9 last; when I found the subject, a fox terrier dog, about eight years old, suffering with paraplegia of hind extremities, involving the rectum and bladder.

There was temporary anorexia, which I attributed to the fact that constipation had existed for two or three days. Although he could not stand or even wag his short butt of a tail, he would respond to his name when called, by traveling after you on his forelegs, trailing his hind ones after him, the muscles of which were so relaxed that the limbs would cross each other when he would turn from a straight course.

I began treatment by administering a dose of "salts," which I have found to be quite as responsive in the canine as in the human subject, and from the convenience of its form for carrying it always in the pocket, so that you can dissolve a teaspoonful and administer it at a moment's notice, I have adopted its use almost entirely in canine practice, to the exclusion of the oleaginous form of purge. I immediately followed the administration of the purge by the application of electricity to the lumbar region and hind extremities, and during its application there was a decided movement of the bowels and voiding of urine. At this first application of the electric current, and at the next three or four, the dog seemed to suffer no pain, but after about the fifth or sixth application, there seemed to be hyperæsthesia of the parts, they being very sensitive to the touch, and a look of dread seemed to pass over the dog's countenance at the sight of the battery while there was a continual complaining during its application. The next morning after the first use of the battery and movement of the bowels, the appetite had returned and remained good from that time on. At this time I put the patient on tr. nucis vomicæ, m. iii, three times a day, which I steadily increased until it reached m. xx. three times a day. I continued the use of the battery twice a day, and at each application of it, much to my discomfort, although undoubtedly for the patient's good, defecation and micturition took place. Recovery was gradual, so that at the end of about two weeks he was able to bear his weight on the limbs, if they were placed in a standing position, and a hand was placed against each hip to prevent him falling sidewise, and at the end of three weeks he was able to get up himself and stand, and a day or two later ventured, on being called, and found he could walk, although if he attempted to run he would fall. At this point I began to decrease the doses of nux vomica and to use the battery only once a day and then every second day, and finally about ten days from the time of his beginning to walk, I ceased its use altogether, also that of the nux vomica. After he began to walk his bowels and bladder resumed their normal functions, and I was no longer annoyed at the time of using the battery. The dog at the present time can walk or run at will, has an enormous appetite, and has grown very stout and heavy.

There is still noticeable at times a lack of *entire* control of the hind extremities, as when turning a corner short in chasing a cat; but I am in hopes that that will entirely disappear with the return of the dry weather of the summer season.

TRAUMATIC PERICARDITIS.

By Frank Bales, V.S., Monticello, Ill.

The subject was a cow, supposed to be suffering from pneumonia. History to the effect that the patient had thrived poorly during most of the winter, but had noticed nothing to attract particular attention until the morning of March 17, when she refused food, lying around and moaning. She was due to calve in ten days. I found patient lying in natural position but moaning. When made to stand moaning continued, general appearance unfavorable, and would indicate otherwise than the latter stage of pregnancy. Examination proved left lung to be normal, but could discover no murmur over postero-inferior portion of right. Pulse 104, temperature 103 2-5. A peculiarity of the pulse was its regularity and distinctness, considered along with the rate ; venous pulse distinct ; no cardiac sounds on *left side*, and but faintly on right.

To save explanations, I pronounced it "heart trouble," and explained the advent of a foreign body as an occasional cause ; pronounced the case fatal, prescribing, however, stating a wish to hold post-mortem when death occurred.

Post-mortem.—Opened right thorax, and in so doing opened the pericardial cavity, which was enormously enlarged, forcing its way under right lung, and becoming attached to the wall of right thorax by an inflammatory exudate. Pericardium greatly thickened and filled with an exudate of a milky consistence and of a quantity which would seem inconsistent with truthfulness were I to state it. Posterior surface of heart adherent to pericardium, and the latter to diaphragm. Carefully breaking down the adhesion between the heart and diaphragm, I found a common darning needle fixed in the posterior surface of the right ventricle.

Some of our authorities speak of making a positive diagnosis in these cases, but in this case the symptoms were so much at variance with those laid down in our works, that I should feel some hesitancy in making such. We are told that the heart beats are short, angry and hard. In this case it was just the reverse, the pulse being rapid, but remarkably regular and distinct. No splashing or gurgling ; cardiac murmur very faint, distinguished on the right side only, probably explained by the adhesion of pericardium to right thorax, which also accounts for the absence of murmur at this point. Nor was I able to trace the course of the needle from the reticulum to the heart. No adhesion between reticulum and diaphragm. The offender being small and sharp pointed, probably produced but a small amount of irritation during its passage. During the whole period of unthriftiness the owner had noticed no special digestive disturbance, excepting the last three or four days, when she refused all food and water.

RUPTURE OF A BRONCHIAL TUBE.

By H. D. Fenimore, D.V.S., Knoxville, Tenn.

I was called to remove the placental membranes from a Jersey cow that had given birth to a calf the day before. All other symptoms were normal except that her breathing was somewhat labored, resembling emphysema. The next day her breathing was more labored, and a well-developed case of subcutaneous emphysema had set in. The air bags under the skin were very extensive on the sides of the head and neck, and along the back and loins. On questioning the owner he said that when he was drenching the cow before I had seen her, she gave a very violent expulsive effort, so much so that she fell. We put her on stimulant treatment, and let the air out through an incision in the skin. Her appetite and breathing gradually grew worse until her symptoms were so distressing that two weeks later we killed her. At the autopsy we found the subcutaneous tissue of the head, neck and back filled with air. The lungs showed a great number of very large bulbæ, and some consolidation. The right bronchial tube showed a rupture one inch long between the second and third rings from the large bifurcation. The rupture as well as the emphysematous condition of the lungs was undoubtedly caused by the effort to expel the liquid from the lungs, at the time she received the drench, and at the same time set up a certain amount of traumatic pneumonia. The air escaping from the rupture passed forward along the trachea into the subcutaneous tissue of the neck, and thence to other parts of the body.

AMPUTATION OF THE UTERUS OF A COW.

By W. H. Curtis, D.V.S., Marengo, Ill.

I was called Dec. 30, 1895, to the farm of Mr. P. to attend a cow that had calved the night previous. Found inversion of uterus; could not replace it. Amputated at neck by using three ligatures, ligating in three sections. Used creolin as an antiseptic, followed by daily injections of solution of boracic acid. Cow made a good recovery.

Grants to Medical Laboratories.—250,000 francs (50,000 dollars) are yearly granted by the French government for the laboratories of the Institute Pasteur, of the Veterinary Schools of Alfort, Lyon and Toulouse, and some of the schools of medicine. These funds are to be used for experimental researches and principally the study of the serums and vaccines.

SOCIETY MEETINGS.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular meeting of this Association was called to order at 9 P. M., April 7th, at the Academy of Medicine, by the Vice-President, Dr. Giffen, who expressed sincere regret at the circumstances which called him to fill the President's chair (Dr. Huidekoper's serious illness).

On roll call, the following members responded: Drs. Bretherton, C. C. Cattanach, J. S. Cattanach, J. S. Cattanach, Jr., Delaney, Dair, Ellis, Ferster, Finlay, Giffen, Gill, Hanson, Jackson, Johnson, Knott, Lamkin, Lellman, Machan, Mac Kellar, Neher, O'Shea, Ryder, Sherwood, Serling and Turner—(25).

Reports of Committees.—The Board of Censors (Dr. Gill, Chairman) reported the following:

> WHEREAS, Dr. S. K. Johnson, by contracting with the Mutual Live Stock Benefit Insurance Company (?) has violated Article VII. of the Code of Ethics, therefore, be it
>
> *Resolved*, That the Board of Censors recommend to the Association that if the said Dr. S. K. Johnson does not show satisfactory evidence of having resigned and severed all connection directly or indirectly with the said Insurance Company on or before October 15th, 1896, he be expelled as a member of this Association.

The court records not having been produced in the case of Dr. Turner vs. Dr. Finlay, as was ordered at the last meeting, the charges against Dr. Finlay were dismissed, and he was honorably discharged.

Owing to the absence of Dr. Glover from town, his case was laid over until the next meeting.

The following was offered:

> WHEREAS, It has come to our knowledge that one or more members are directly or indirectly connected with Live Stock Insurance Companies, therefore, be it
>
> *Resolved*, That all members so connected will either sever their connection with such companies, or suffer expulsion.

Moved and seconded that the report be accepted. Carried.

Moved and seconded that the Secretary be authorized to notify any members who may have any connection with insurance companies, to sever such connections, according to report of Board of Censors. Carried.

Committee on Legislation (Dr. O'Shea, Chairman) reported that the Cole Amendment Bill is to go into the Senate next week, and that the previous Cole Bill is killed. In reference to resolutions which were to be offered to the several city departments and be introduced at Albany, the doctor reported that he had been advised that it was too late to pass that bill this year, and stated that the Association's counsel suggests that the committee see the heads of the various departments before introducing the bill at Albany and thereby secure their mutual co-operation.

Dr. Gill suggested to the meeting that the Civil Service Commission be conferred with on this matter, which suggestion was approved by the members.

In reference to the jury bill, Dr. O'Shea reported that he had had Senator Sullivan's positive assurance that the bill would come out. Moved and seconded that the report be accepted. Carried.

Reports of Cases.—Dr. Neher reported a few cases of flatulent colic in which he resorted to puncture of the stomach with good results, claiming that puncturing of the stomach would often save cases that could *not* be saved by puncturing in the flank. Great eructations of gas was an indication for stomach puncture, and that point most resonant on percussion, just posterior to the cartilage of prolongation of the sternum, being the seat of puncture.

Dr. Hanson reported a case of fatty tumor weighing seven and one-quarter pounds which he removed from the sternal region just posterior to axilla in an Irish setter dog, which he had been called in consultation to see, with Dr. Jackson.*

A number of interesting cards, issued by so-called veterinary surgeons, were read by Dr. Neher, and referred to the Judiciary Committee for investigation.

Moved and seconded that the Secretary be authorized to communicate with the Secretary of the State Association and with Prof. Law, of Cornell University, enlisting their aid and co-operation with the County Association in securing a proper guardian for the interests of the veterinary profession of New York State, at the capital, while the legislature is in session next year. Carried.

Moved and seconded that the Secretary secure the list of registered men in New York County obtained by the Judiciary Committee and have it printed. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Sec.*

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

The first quarterly meeting of the California State Veterinary Medical Association for the year 1896 was held in the lecture-room of the California Veterinary College, San Francisco, March 11th.

---

* The story of this case will be found elsewhere in this issue.

The meeting was called to order by President Prof. W. F. Skaife, and on roll call the following members answered to their names: Drs. Orvis, Pierce, Spencer, Sr., Spencer, Jr., Skaife, Archibald, Graham, Steers, Fox, Jackson, Fabbi, O'Rourke, and Cunningham. Visitors: W. McLelland and the students of the California Veterinary College.

The minutes of the previous meeting were read and approved.

The Treasurer, Dr. Fox, being absent from the annual meeting in December, now read his annual report for the year ending Dec. 11, 1895, which, after being fully considered, was received and placed on file.

The committee on communications with the Governor in regard to appointing a commission to devise ways and means whereby the public health and the live stock interests of this State might be protected from the ravages of contagious and infectious diseases, reported that they had been promised an audience in the near future. On motion the report was accepted and the committee given further time.

President Skaife called Dr. H. A. Spencer to the chair, before delivering his inaugural address.* The address proved to be very interesting. The Doctor made mention of a great many important points to be remembered in the practice of veterinary surgery successfully. He was very highly complimented by the members present for the able manner in which he had addressed them.

Dr. Jackson, of Oakland, next introduced the subject of Parturient Apoplexy. A very interesting discussion followed, in which most of the members present took an active part, their remarks being directed principally to the cause of the disease.

Dr. R. A. Archibald tendered his resignation as a member of this association. After considerable discussion, on motion by Dr. H. A. Spencer, the resignation was accepted.

Dr. Cunningham introduced the subject of milk inspection, and requested Dr. H. A. Spencer, of San Jose, and Dr. F. E. Pierce, of Oakland (at present inspectors in the above named cities), to explain in detail the mode of procedure of examining milk in their respective cities, which they did to the entire satisfaction of the members present. Drs. Cunningham and Steers also made some interesting remarks on the subject.

---

* Will be published in June REVIEW.

Pres. Skaife being called away, appointed Dr. Steers as President *pro tem.* President pro tem. Steers appointed as essayists for the next meeting A. A. Cunningham, F.C.S., of San Francisco, and Dr. O'Rourke, of San Francisco.

By request, Dr. Steers also agreed to read a paper at the next meeting.

On motion the meeting adjourned to meet in the same place on the second Wednesday in June. D. F. FOX, D.V.S., *Sec.*

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The March meeting of this Association was called to order by Dr. John R. Hart at 8 P. M. on the 10th. Coming so near the State meeting the attendance was remarkably light, yet during the discussion on azoturia there were many new and valuable ideas advanced.

Those present were Drs. John R. Hart, T. B. Rayner, Chas. Lintz, J. Johnson, J. T. McAnulty, H. J. McClellan, W. H. Hoskins and W. L. Rhoads.

The Chairman of the Legislative Committee reported having made another strong move toward awakening the sympathy of the legislators in behalf of the veterinarians, at the same time awakening a patriotic spirit within themselves, as it should be, when they realize their own to be the only civilized country which does not recognize its veterinarians.

Dr. Lintz offered a resolution, seconded by Dr. Rhoads, which extended to Dr. Hoskins a hearty vote of thanks for the sincere efforts he had made in the furtherance of this bill.

A communication from Dr. H. B. Felton, containing his resignation from active membership in the Keystone, was now read : the resignation was immediately acted upon and accepted.

An application from Dr. F. S. Allen for admittance to membership was now read, and in accordance with the by-laws, laid upon the table for consideration at the next meeting.

Dr. Allen now reported three cases of azoturia, one subject having two attacks within five weeks, and made the most complete and rapid recovery from the second attack. The first case was a black gelding, five years old, 16½ hands high. The treatment followed was purgation, ext. buchu, ext. juniper and acetate of ammonia, giving a dose every hour for first day, and five doses the second day, keeping the horse well covered to produce diaphoresis, and drawing water every few hours, using liniments and friction freely over the spine. He was able to stand on the third day, but on being moved about dragged one hind limb; this was somewhat improved by blistering, and subsequently disappeared upon steady working.

The treatment of the second case was similar, but in this he used acetate of potash instead of ammonia. This horse had a return of the trouble within five weeks after recovery, when he repeated the treatment and in addition gave half a pound of bicarbonate of soda every six hours. The recovery from this (though a severe attack) was very rapid and complete.

Dr. Johnson said that he had found in many of these cases that the urine, though to all appearances albuminous, was practically free from albumen, but was loaded with an excess of salts. He said many of these cases so closely simulate paraphlegia that a correct diagnoses is difficult.

Dr. Hoskins thought many cases resembling azoturia are incorrectly diagnosed on account of the many cord lesions, and said he had found in many cases that on first drawing the urine was very light, assuming a darker color as the disease progressed. He agreed with Dr. Allen in the belief that the weather has a great effect on the disease, yet in some countries they have it in extremely hot weather. He found in many cases the urates and hippurates amounting to 25 per cent., while in the normal urine there are but 3 to 5 per cent. The Germans use cold packs of ice and bran along the spine, and claim good results.

Dr. Lintz reported having two cases in June, one being driven over 20 miles. The recovery in each case was good.

Dr. Johnson cited a case in a two-year-old, after having done a very fast mile on a very cold day, becoming worse for three or four days, yet making a complete recovery in three weeks. He also described the operation upon the corticle zone for paralysis in man.

Dr. Hoskins spoke of a number being recorded in the city directory as veterinarians who were not registered as such with the city prothonotary.

The meeting adjourned to reconvene Tuesday, April 14, 1896.

W. L. RHOADS, *Secretary.*

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

REPORT OF CORRESPONDING SECRETARY.*

Mr. President and Gentlemen:—

This year now drawing to a close has been an exceedingly busy one for those whose duty it has been to conduct the affairs of this Association. These months of hard and earnest work, on the part of your worthy President, Legislative Committee and others, has at last been crowned with success. This Association may well feel proud of what it has achieved through its committee, officers and members during the past year.

---

* Read at the meeting March 4, 1896.

To the committee whose task it has been to draft and secure the passage of these bills—one for the establishment of a "State Board of Veterinary Examiners"—another for the establishment of a "State Live Stock Sanitary Board"—we, as well as the people of this city and State, owe a deep debt of gratitude. Their labors have been arduous and fraught with innumerable obstacles. At the time of the drafting of this bill for the establishment of a State Live Stock Sanitary Board there were in the field not less than three other bills—all asking for the establishment of some form of a State commission. These bills, it seemed, aimed more particularly to benefit one class of people, or those who advanced or supported them.

Your committee found also a large portion of the farming community arrayed against them, or the veterinarians, owing partly to unwise and untimely orders issued by the Board of Health, and partly to the powerful influence of men high in office, who, at the same time, enjoyed the confidence of a large portion of the farmers, and who, for some selfish reason, set about to poison the minds of the farmers, and array them against the veterinarians of this State, leading them to believe that the object of the veterinarians' bill was a selfish one. Then, again, there was the all-powerful press arrayed against them. Influential papers, not only in this city and State, but in other States, were used to defeat this bill. And this is not all. The Cattle Commission of Massachusetts had at that time entered upon a crusade for the extermination of tuberculosis in that State through the use of tuberculin as a diagnostic agent. This had aroused the farmers of Massachusetts from one end of the State to the other; and being in an experimental stage, the opponents and enemies took advantage and made all they could of it, in turning the farmers and people of this State against our bill, fearing that the veterinarians of this State would pursue much the same course by the use of tuberculin. This was the condition of affairs in this State when your bill for the establishment of a "State Live Stock Sanitary Board" was presented to the Legislature for enactment. These obstacles had to be met and overcome. Fortunately, gentlemen, we had one great advantage over our opponents. We were in the right, and "Right means Might." Facts are convincing, and by presenting facts and arguments to the legislators—Senators and the Representatives, to many of the influential farmers and friends, as well as the Governor—and by the assistance and endorsements from boards of health, health protective associations, physicians and veterinarians through the State, you have as a result of all this hard work to-day laws enacted establishing a "State Board of Veterinary Examiners" and a "State Live Stock Sanitary Board."

And more than all this—you have seen the State of Pennsylvania placed in the front ranks with a State Veterinarian who stands second to none in this country. Thus it is, the Governor of this State has done honor to his State and to the veterinary profession in appointing our worthy President as State Veterinarian of Pennsylvania, a position to which he is peculiarly fitted, owing to his character, ability, his thorough and special line of education. It is through such appointments of worth, fitness and ability that a method is found to elevate the veterinary profession in the eyes of the community and thus place the veterinarians more in those places of trust for which they, by their special line of study, are fitted—sanitary boards, boards of health, meat and milk inspectors, etc.

It is to our State Veterinarian we are now to look to the establishment of a thorough systematic sanitary supervision of the health of all animals, to the control, suppression and eradication, as far as possible, of all contagious and infectious diseases, through the enactment of proper laws and measures for their control. Upon the early recognition of these diseases as well as the ability to introduce proper and prompt measures to grapple with them depends their control and eradication.

During the past year all the members of this Association were furnished twice with statements of the amount of their indebtedness. All those who were in arrears were furnished with statements and notified from three to five times, and urged to remit the amount of their indebtedness, and thus place themselves in good standing once more in this Association. On November last all members were furnished with a statement of their indebtedness and slips of the amendment to the Constitution and By-Laws. Also the motion passed at our last semi-annual meeting as a matter of information. Not less than one hundred letters were collected or received as a result of this amendment and motion. All of which have been answered and placed on file for future use. This motion has failed, as yet, to bring about the desired result. None of those whom it was intended to arouse have as yet paid in a single dollar. No steps have been taken to force a settlement, owing to the fact that many of the applications are not in proper shape at the present time. It was not deemed wise, therefore, to act till we were sure of success.

I would suggest that in the future all applications be filled out properly and accurately, that all the members of the Board of Censors sign them as well as approve them.

I would also suggest that a special book be kept by the Corresponding Secretary containing the Constitution and By-Laws for the signatures of all new members.

There are at the present time 118 active members, 14 members having been dropped or suspended for non-payment of dues.

Since our last meeting we have lost one of our number, Dr. W. U. Custer, of Reading, who died Dec. 1, 1895, making the number of active members 117.

I have received three applications for membership, Drs. Geo. B. Jobson, A. O. Cawley, and Chas. Falconer.

All letters during the past year have been answered and filed for future reference.

All new members have been notified and furnished with the Constitution and By-Laws of this Association.

All certificates that have been paid for have been forwarded to the members.

I have some seven certificates uncalled for, and have not delivered them owing to the fact that the members have not paid their initiation fees.

I am awaiting a remittance.

Respectfully submitted,

March 3, 1896. F. S. ALLEN, *Cor. Sec.*

MONTREAL VETERINARY MEDICAL ASSOCIATION.

A regular meeting of the Association was held on Thursday, Feb. 20th. The honorary President, Dr. D. McEachran, occupied the chair. After the roll call and reading of the minutes of the previous meeting the librarian reported the addition of several new works to the library.

A committee was appointed of Dr. Dawes, Messrs. Kee and Ness, to draft resolutions on the death of Dr. Donald Campbell, '82.

Mr. F. W. Kee furnished the case report for the evening, describing a peculiar case of "Suppurative Mediastino-Pericarditis in a Horse." A prolonged discussion followed on the pathology of the case, also on the general treatment of thoracic affections.

Mr. J. A. Ness read an interesting paper on "Horse Breeding," describing the selection, care and management of breeding animals. The relative merits of Clydes and Percherons came first under discussion, it being the consensus of opinion that the former were better adapted to the climate of this country. Dr. D. McEachran closed the discussion by an interesting historical resume of the origin of the French Canadian horse. "They are," he stated, "the descendants of French mares and Arabs or Barbs imported from the Levant, by the officers stationed in the Province during its occupation by the French."

After further remarks on the subject of "first impregnation," the meeting adjourned.

A regular meeting of the Association was held in the library of the Faculty of Comparative Medicine and Veterinary Science on Thursday evening, March 5. There was a good attendance of members, the second Vice-President, Mr. E. C. Thurston, occupying the chair. After the roll call and the reading of the minutes of the previous meeting the Secretary read a communication from Dr. A. T. Rowat, of Honolulu, on "Paracentesis Abdominis." The technique of the operation and its indications were described by the writer in a lucid and entertaining manner. He had in his own practice proved the great utility of puncturing the intestine in cases of flatulence and attributed the unfortunate sequelæ which some practitioners ascribe to the operation as due to lack of asepsis or of delaying the operation until the case is beyond recovery.

In the discussion following, Drs. C. McEachran and Martin pointed out that, with proper precautions, the operation was not only simple but was safe and well warranted by the good results to be obtained.

Concerning peritonitis in the horse as a sequelæ it was thought that the peritoneum of that animal is not so liable to inflammatory lesions following trauma, or surgical interference, as is generally supposed, and many instances were adduced in support of this view.

A motion by Mr. Kee was unanimously carried "that the Secretary be instructed to convey to Dr. Rowat the thanks of the Association for his communication, which is most highly appreciated, evidencing on the part of the writer the interest he maintains in the welfare of the Association."

Mr. C. H. Higgins read a case report of "Traumatic Ventral Hernia," with rupture of the udder in a cow that evoked further discussion on peritonitis, during which Mr. Higgins pointed out the great field, as yet untouched, for research concerning the contents of the intestinal tract of the various domestic animals from a bacteriological point of view.

Mr. S. C. Richards presented an admirably prepared paper on "Acute Specific Pleurisy in the Horse." He described the clinical history and post-mortem changes found in an animal which he recently had under his observation. In the discussion following Dr. Martin stated that in human practice a bacteriological examination of the pleuritic effusion was an invaluable aid in arriving at a correct diagnosis of the pathological changes present, and why should the same not be true of veterinary practice.

Mr. Higgins reported on behalf of the Experiment Committee that the dog from which the spleen had been removed six weeks previously had been destroyed. Beyond a chronic peritonitis at the site of the operation no other abnormalities were noted. There was no glandular enlargement of any description. Blood counts were not made.

Mr. J. H. Patterson promised a paper on "Colic" for the next meeting, and adjournment took place.

HARRI H. DELL, *Sec.-Treas.*

AMERICAN VETERINARY COLLEGE MEDICAL ASSOCIATION.

At the regular meeting of the American Veterinary College Medical Association, held in the lecture room, Jan. 10, Mr. S. S. Buckley read a paper on "Crude versus Concentrated Medical Agents." The paper brought out the facts that ofttimes the crude drugs were impure, and therefore the expected action of a medicine failed, also that in a country practice it was a bulky way to carry medicines. The discussion pointed out some objections, mainly the liability of abscesses forming where the injections were made. Also that it would be a dangerous and expensive practice to leave a hypodermic syringe with the ordinary attendant. Adjourned.

The regular meeting was held in the lecture room Feb. 14, President Dr. Clayton in the chair.

Mr. DuBois read a paper on Purpura Hæmorrhagica. He said the real cause was not understood, but it was liable to occur to a debilitated subject after febrile diseases of the respiratory system. The suddenness of the attack was characteristic, also the swellings. Spoke of these swellings occurring around the head, often interfering with the respiration, but condemned the use of the tracheotomy tube, on account of the liability of gangrene from the poor condition of the blood. He thought in many cases a speculum in the nostrils would be enough to save an animal. In treating these cases, good results had been had from the use of iodide of potash, injected intratrachially. Another good treatment was 4 drachms of black coffee three times a day, at the same time giving strychnine.

The number of meetings remaining being limited, Mr. Lea also read his paper at this meeting. Subject: "Horseless Carriages Not the Fashion!" He enumerated a number of instances where the electric carriage was incomplete, as the difficulty to get started or to stop gradually, their great weight, danger of explosions, great amount of mechanism, which was constantly getting out of order, the amount of oil that was needed to lubricate the machinery, and the liability of getting it on the clothing. The motor took up so much room that it made a pleasure vehicle look very clumsy, and if the vehicle was to be used for delivery purposes there was no room for the packages.

He thought the number in use was much exaggerated, and noted two instances where well known firms in this city had given them a trial and were compelled to hire a horse to get them home again.

The regular meeting was held in the lecture room Feb. 21st, President Dr. Clayton in the chair. Mr. Grutzman read a paper on "Mallein as a Diagnostic Agent in Glanders." First prepared by Helman and Kalving, in Germany four years ago. There were some doubting ones, but statistics show that Germany had 95 to 96 per cent. positive results, and France even as high as 99 per cent., the unfavorable results probably due to impure quality of the mallein. Mallein is claimed to be the best and quickest diagnostic agent for doubtful cases, and shows distinct and characteristic reactions, no matter how recently the horse is affected. The reaction only to be relied upon if the temperature rises at least two degrees and at the same time a large and painful swelling appears at the point of injection, also the other phenomena, as sudden debility, colicky pains, etc. If the reaction is entirely negative it is safe to say the horse is not affected, no matter how suspicious, provided the mallein can be relied upon, and the proper quantity was used. To prevent errors the horse should be kept in a place of even temperature; take temperature of horse for at least twenty-four hours before injection at intervals of two hours, to be sure no fever is present. Take the temperature the last thing before injecting, and then watch the animal carefully,—and if he is affected you will soon observe colicky pains, large amount of fæces passed, no appetite and trembling all over; in about eight hours temperature will begin to rise, 2° to 5° above normal, generally highest towards midnight; look for the swelling; if the temperature stays elevated for about thirty-six hours and does not disappear before that the horse is without doubt infected with glanders. But if all these symptoms appear and disappear inside of twenty-four hours the case is a little doubtful; so after four or five days inject again. Brutes' mallein, from France, is used in half cubic centimetre doses, diluted with two cubic centimetres of distilled water. The paper was well discussed by Messrs. Rosekrans, S. S. Buckley, Zucker, Wescott and DuBois. Adjourned.

The regular weekly meeting was held in the lecture room, Feb. 28.

Mr. Mead read a paper on "Tuberculin as a Diagnostic Agent in Tuberculosis." An English Royal commission definitely proved in February, 1890, that the meat or milk of any eatable from tuberculous animals could transmit the disease to healthy human beings or animals; carnivora and herbivora are liable to it, but the pig is especially subject. Infection through the digestive track is mostly due to improperly cooked meat or infected milk. The tuberculous material is seldom found in the meat, but generally in the internal organs, membranes, and glands. Where tuberculous material is found on the meat it is generally due to want of cleanliness in handling. The udder is a very common seat of these deposits, and the nodules can often be felt by external manipulation. Therefore, milk from such animals is very dangerous. Some think that a good deal of the meat from a tuberculous animal can be saved without danger of infection to the consumer, especially if the seat of disease be in the lungs or mammary glands. Human doctors try to keep life in their patients by keeping the system in such a condition that it can feed the destruction as fast as it breaks down. But in our patients it is better to kill at once and so prevent its spread. It is often difficult to diagnose an obscure case of tuberculosis, and the diagnosis is not alway positive. Tuberculin as a diagnostic agent was first prepared and used by

Gutman, of Germany, in 1891, with wonderful results, 95 per cent. of the cases diagnosed by means of this agent proving correct on post-mortem. Tuberculin is a yellowish liquid, glycerine extract of the cultures of the tubercle bacillus, the dose being 1 cubic centimetre. Prepare the animal beforehand, and be sure there is no fever and the temperature of the stable is about equal. If the animal is affected you get a rise in temperature of 2 or 3°, swelling at the point of injection, appetite and milk secretion impaired; restlessness and debility. Some authors claim that tuberculin gives pronounced reaction in actinomycosis, while in tuberculosis in very advanced cases it gives only weak reactions, but tuberculin as a diagnostic agent does not lose its value on account of that, because advanced cases of tuberculosis can be diagnosed without the aid of tuberculin. After discussion, adjourned.

COMMUNICATIONS.

THE U. S. V. M. A. PRIZE.

FARGO, North Dakota, April 9th, 1896.

Editor American Veterinary Review:

DEAR SIR:—I have read your editorial comments, the article by Dr. Tate Butler, and the one by Dr. L. McLean on the above subject.

My experience with the workings of the Prize Committee has been somewhat unsatisfactory. I went to considerable trouble and expense in order to carry out a line of investigation, which as yet has been worked upon very little. The results were satisfactory. Two years ago I prepared a paper on the work which I had had in hand for over two years, and mailed it to the Chairman of the Prize Committee, wishing to compete for the prize offered by the Association. I heard nothing therefrom, not even an acknowledgment of the communication, until about four months after the Society had held a meeting; I then wrote the chairman of the committee that I had forwarded him an article and asked whether it had been presented to the Association. His letter informed me that it had not, that he had mislaid the communication, for which he was very sorry. I thought possibly at first that the communication was not considered worthy, and for that reason had been laid aside, but I had three requests in as many months from the chairman of the committee, asking that he be allowed to publish the article in the journal with which he was then connected. That led me to believe that he considered the article of some value, or he would not have requested the privilege of publication.

That has been my experience with the prize committee, and had I been successful in having my article printed at that time, I should have had other articles ready.

I do not believe that any article ought to be printed in competition for the prize which does not represent an original line of investigation, but it is rather discouraging when one has taken considerable pains and time and spent considerable money in conducting such investigation, to write a paper and then have it mislaid.

It seems to me that the prize should be continued.

Yours truly,

T. D. HINEBAUCH.

THE OHIO VETERINARIANS TO MEET IN BUFFALO.

WASHINGTON C. H., Ohio, April 10, 1896.

To the Members of the Ohio State Veterinary Medical Association:

In THE AMERICAN VETERINARY REVIEW, March number, page 809, is a letter from us to you in reference to changing semi-annual meeting place from Columbus, Ohio, to Buffalo, New York. Your officers did not consider that they of themselves possessed the authority to make the change, believing that the members only who had named Columbus could revoke their action, so in accordance with this view your secretary was instructed to write every member that was present at our last meeting (19), and has received sixteen answers, fifteen of which say "meet in Buffalo."

The Ohio State Veterinary Medical Association will therefore convene in Buffalo, New York, in semi-annual session on Sept. 1st, 2d, 3d, 1896. W. H. GRIBBLE, *Secretary.*

POISONING BY ERGOTIZED OATS.

SALEM, Oregon, March 17, 1896.

Editor American Veterinary Review:

We have in this country a good many cases of poisoning by ergot and darnel grass. The ergot is found in oat hay and oat straw, and horses fed on either suffer from the ergot. The signs of poisoning are palpitation of the heart, tucked-up appearance at the flank, irregular respiration, slow, soft pulse, vertigo, staggering gait, holding the head very low, unable to raise it, and falling if you attempt to administer anything by the mouth that necessitates the raising of the head, crossing of the legs if you attempt to back them.

What I wish to know by stating the above is, are there any specifics for ergotal poisoning? The books give none. By answering this through THE AMERICAN VETERINARY REVIEW, you will confer a great favor on one that has much to do with such cases.

Very respectfully,
D. D. KEELER, V. S.

[NOTE.—We know of no specific for this class of poisoning. The reasonable thing to do, however, is to withhold all diseased food, and to combat the symptoms as presented. If any of our readers have had experience with cases presenting the narrated symptoms, we would be glad to publish their observations.—ED.]

BOARD OF VETERINARY EXAMINERS OF VIRGINIA.

Governor O'Ferrall, of Virginia, has appointed the following members of the State Board of Veterinary Examiners: W. H. Harbaugh, V. S., of Richmond; E. P. Niles, D. V. M., of Blacksburg; George C. Faville, D. V. M., of Norfolk; Charles McCulloch, D. V. S., of Howardsville; A. J. B. Burkholder, D. V. S., of Staunton. The appointments, which are for a term of four years each, beginning May 1, 1896, are made under the law passed during the last session of the General Assembly and approved February 27, 1896.

COMMUNICATIONS RECEIVED.

Communications are acknowledged from the following: W. J. Martin, V. S., G. A. Miller, D. V. S., J. A. Couture, V. S., F. H. Miller, John P. Haines, Esq., F. W. Skaife, M. R. C. V. S., W. F. Derr, V. S., J. R. Kelso, D. V. S., T. W. Watson, V. S., Robert Robb, V. S., James A. Waugh, V. S., F. C. Williamson, V. S., W. V. Bieser, D. V. S., L. L. Conkey, V. S., M. Ch. Morot, Otto Faust, D. V. S., John Minchin, V. S., Olaf Schwarzkopf, V. M. D., Leonard Pearson, V. M. D., W. H. Hoskins, D. V. S., George G. Van Mater, M. D., D. V. S., J. J. E. Poe, V. S., L. H. Howard, D. V. S., and several others.

NEWS AND ITEMS.

DR. HUIDEKOPER, who has been sick some time, is, we are glad to hear, improving.

THE Veterinary Medical Association of New York County held its meeting for the first time at the Academy of Medicine.

VETERINARIANS of Brooklyn should get together and form a society of Veterinary Graduates of Kings County, or join the Vet. Med. Assoc. of New York County.

NEW VETERINARY LAW IN GERMANY.—A unification of the German legislation concerning the laws of warranty is now before a committee appointed to that effect.

THE ANNUAL MEETING of that wonderfully energetic and interesting body of veterinarians, the Virginia State Veterinary Medical Association, will be held in Norfolk, June 24th.

THE amendment to the bill to exempt veterinarians of New York and Kings counties from jury duty is awaiting the action of the Senate, which will undoubtedly take place very shortly.

DRS. HOSKINS AND PEARSON, of Philadelphia, appeared before a committee of the legislature in opposition to the proposition to reduce the Board of Cattle Commissioners of Massachusetts.

THE thirteenth annual dinner of the Massachusetts Veterinary Association occurred at Young's Hotel, Boston, on the 22d ult., following an interesting meeting of the association, which will be reported in the June REVIEW.

INDIAN PEAS, used as an adulterant of grain, have proven so disastrous to horses in England that the *Veterinary Journal* advises horse-owners to have inserted on their invoices of foreign grain that such grain is free from Indian peas.

DR. OTTO FAUST, of Poughkeepsie, has been elected secretary of the Alumni Association of the American Veterinary College. He is a good man in the right place and we hope that he will receive the co-operation of all veterinarians.

HYGIENE OF MILK.—From observations made by Fiorentini, at Milan, it is proved that the milk sold on the markets of that city contains in 18 per cent. of the cases experimented with, the bacterium coli and in 10 per cent. the bacillus of tuberculosis.

T. J. TURNER, D. V. S., of Glasgow, Mo., late the most efficient and conscientious State Veterinarian of Missouri, failed to be reappointed upon the expiration of his last term. It is said that politics are alone responsible for the change. His record certainly was not consulted.

IT was a pleasure to all present at the commencement exercises of the A. V. C. and the banquet, to see Prof. J. L. Robertson again in his place and so much improved in health. On the other hand—there was a temporary vacancy—that of Prof. A. F. Liautard, who is in Paris.

THERE is a bill now pending in the Iowa Legislature, the title of which is "To Protect the Live-Stock Industry of Iowa," permitting only graduates from veterinary colleges to use the title "veterinarian" or "veterinary surgeon," and confining empirics to the use of the term "farrier."

DR. NEHER, at the last meeting of the New York County V. M. Association, reported cases where he has punctured the stomach of the horse in cases of tympanites of that organ. Although it takes a man with an iron nerve to puncture that viscus, yet the Doctor claims many lives may be saved, and is well worth a trial where other treatment fails.

THE APPOINTMENT of State Veterinary Surgeon for Iowa has been given to Dr. J. I. Gibson, of Denison, Ia. He will succeed Prof. M. Stalker, of the State Agricultural College, whose term expired in April. Dr. Stalker has very capably filled that office ever since 1884, at which time the twentieth General Assembly of Iowa created the office.

DELICACY OF HEARING IN HORSES.—It is a well-known fact that horses hear noises that escape the attention of men. It is reported in a recent publication of Italy that at the time of the earthquake of La Riviera, horses a long time before the accident gave symptoms of increasing anxiety. While the inhabitants heard under-ground noises only a few seconds before the first shock, horses had already manifested their fright seventy-two hours before.

PARTURIENT APOPLEXY.—W. H. Curtiss, D. V. S., of Marengo, Ill., writes: "I notice in the February REVIEW that Dr. Gilbert, of Leesburg, Ohio, had discovered a sure cure for parturient apoplexy, but had not disclosed the secret. I have recently treated ten cases as follows: Fl. ext. calabar bean, fl. ext. jaborandi, aromatic spirits ammonia, spirits nit. ether, āā two ounces —making an eight-ounce mixture. Give one ounce every hour, or every two hours, as required. Use catheter to empty bladder, if necessary, but do not give any cathartics, such as salts, etc."

THE REVIEW is increasing in circulation very fast; it has been often said that the great body of American veterinarians were not readers, that not one in five were subscribers, but we have discovered that if they are once made aware of the great benefits that our journals are to them practically, they are ready enough to become subscribers, and when once we get them we will be pretty certain to hold them ever after. The veterinary journals of this country are now inferior to none in the world, and every man who has any ambition and is worthy of his profession should be a subscriber to all of them.

"AS ITHERS SEE US."—A recent letter from a veterinarian of national reputation concluded as follows: "The REVIEW has certainly made wonderful growth both in quality and quantity of contents and reflects great credit upon the editors in the selection and arrangement of the abundant material it offers to its readers as well as in its careful proof-reading and general appearance. A credit to the veterinary profession of America." Another letter from a well-known educator, and veterinary writer: ". . . I intended to write you before this and, congratulate you on the very noticeable improvement in the REVIEW. . . ."

QUALITY OF HORSE MEAT.—Horse-meat is very healthy and would be as tender as that of beef, if horses were consumed young and after fattening. It tastes much like venison and is considered more nourishing than the meat of steer or mutton. Horse meat is of a red brown color, and darkens to the contact of air. The muscular fibres are long, fine and on cut shows a finer grain than that of beef. It demands longer cooking. In mares and geldings, it has a more delicate taste. The meat of donkeys is very much like and resembles a little that of veal. That of mule is still more delicate and has some analogy to that of deer—it is very tender and has a very savorous taste.

VETERINARY JOURNALISM IN AUSTRALIA.—On account of the limited number of veterinary surgeons in Australia two attempts to establish veterinary periodicals in that country have resulted disastrously financially to their promulgators. In the third attempt (now being made) such a result is sought to be avoided by combining *The Veterinary Record* with *The Farm and Home*, an old-established and influential journal, devoted to agriculture and live-stock interests. *The Record* is edited by W. T.

Kendall, M.R.C.V.S., Principal of the Melbourne Veterinary College, and H. Sugden Ruddick, V.S., lecturer at the same college. The style of the articles is largely of the agricultural type, and intended, in a measure, to awaken an interest in veterinary medicine among the stock-owners of the colony.

VETERINARIANS OUGHT TO REMEMBER—To try to further advance your profession and thus benefit yourselves...... To join all the veterinary societies at your disposal...... To form societies in places where there are none and make them societies of veterinary graduates...... To write articles or reports of cases for the AMERICAN VETERINARY REVIEW...... To report to the same, any news of interest that will benefit veterinarians at large...... To subscribe for the leading veterinary journals. ...... To buy some of the newer works on veterinary medicine and surgery...... To make laws to regulate veterinary practice in your respective states and to enforce them...... To see that veterinary graduates hold the public offices in preference to non-graduates...... To try to prevent non-registered men from practising...... To use the various new remedies and modes of treatment and report the results of the same for the benefit of the profession...... To work in harmony with your neighbor practitioner; it is better for both and for the profession...... To not be hasty in judging other veterinarians, lest you yourself might be more severely judged...... To listen to the advice of older and experienced men...... To make your name by constant and conscientious attention to practice...... To advise all veterinarians to subscribe for the AMERICAN VETERINARY REVIEW.—"F. X. T."

REVIEWS WANTED.

By the REVIEW—August, 1895. Will pay 25 cents for each number.

By Dr. S. Stewart, 7½ South James Street, Kansas City, Kansas—Nos. 1, 3, 4, of Vol. XVII.; also, No. 10, Vol. XVIII. Will pay 25 cents each.

By REVIEW—No. 6, Vol. XIX. (September, 1895) Will pay 25 cents.

BACK NUMBERS REVIEW FOR SALE.

Vol. XIII.—Nos. 10, 11, 12. Vol. XIV.—Nos. 1, 2, 7. Vol. XV.—4, 6, 7, 8, 9. Price 25 cents each. Apply to REVIEW, 141 W. 54th Street, New York City.

AMERICAN VETERINARY REVIEW.

JUNE, 1896.

EDITORIAL.

TUBERCULIN AND MALLEIN.

TUBERCULIN.—Prof. Nocard is continuing with enthusiasm his propaganda in favor of tuberculin, of its advantages in the diagnosis of the presence of tuberculosis in cattle, and of the benefit that could be derived from its use in the control of that true bovine plague. Our readers have already on various occasions been made familiar with his efforts, his numerous experiments and applications, as well as with the lectures, without number, that he has already delivered on those various topics. In one of those recent opportunities, after presenting concise statistics upon the prevalence of tuberculosis in various parts of Europe, relating several instances of the contagiosity of the disease; having shown that to *contagion* and to it alone was due the continuous but slow spreading of tuberculosis, he then urged the importance of the use of tuberculin, and concluded his lecture by answering some serious objections which were made against tuberculin, and which, having also been made in America, we think will prove interesting to our colleagues on this side of the Atlantic. Prof. Nocard said:

"1st. It has been said and written in agricultural journals, that the *injection of tuberculin might give tuberculosis to healthy animals.*

"It suffices to know how tuberculin is prepared to be satisfied of the inanity of the danger. It is true tuberculin is extracted from cultures of the bacillus of tuberculosis; but these cultures, once complete, are first *sterilized* at the autoctare to 110° C., a heat which no living being can resist; they are then concentrated in the water bath, to the tenth of their primitive volume; during this operation, which lasts at least two hours, the liquid culture remains to near 100° heat; then, after filtration, the remaining liquid is diluted in

10 times its volume of phenicated water at 5%. Each of these steps would be sufficient, alone, to destroy all the bacilli that the culture contained. The so-called danger is then absolutely imaginary.

"2d. It has been said that *tuberculin may not give any reaction in some tuberculous animals.*

"It is true. Some tuberculous animals do not react to tuberculin! But, it is only when the disease is in its last stage, when animals are truly phthisic. And, then, the symptoms of the disease are evident, the diagnosis is easy and tuberculin is no longer necessary to establish it.

"The objection falls of itself.

"3d. It has been said, more serious objection, that *tuberculin can produce reaction in healthy animals.*

"This is a positive error. It is easy to understand it when one thinks that tuberculin denounces the presence of the most recent and of the smallest lesions! Such being the uncontested fact, it can be said that if lesion, denounced by the tuberculin, has not been detected, it is because it has not been sufficiently looked for; because the post mortem has been badly made.

"4th. It has also been said that *some non-tubercular affections of the lung or other viscera, can give reaction with tuberculin like tuberculosis does.* Another error! Neither will actinomycosis, vermicular bronchitis, nor the echinococci, the flukes of the liver, to mention only the most frequent diseases, give rise to tuberculin reaction, if they exist alone; but it can be easily appreciated that with these a very small tubercular lesion may have existed, that it might have been overlooked at a post mortem and yet that this was the cause of the reaction.

"5th. *Tuberculin has the serious objection that it accelerates the development of tubercular lesions* to such extent that an animal would soon become useless and valueless, while if it had not been tuberculined it might have rendered good service.

"The aggravation of tuberculous lesions under the influence of tuberculin is a common fact in man—it is exceptional in bovines. I have observed but 3 cases out of 3500 injections that I made myself, and, besides, when it takes place it is always upon animals phthisic to the last degree and consequently useless.

"6th. *Tuberculin facilitates the passage of the bacillus in milk*, and in that way milking cows very slightly affected would become valueless after the injection. I can positively say that such is not the case, as I have studied this important side of the question for a long time. I have had in my laboratory tuberculous milking cows, which at first I employed to test the activity of the various tuberculins prepared at Pasteur Institute; some of these cows received 15, 20, 30 injections in less than a year, and not only did they keep up reacting, but their milk, non-virulent before the experiment, remained so all the time. Last year I systematically made an injection of tuberculin, every week for two months, in a cow of mine, far advanced with tuberculosis; every week also I injected in the peritoneum of 4 guinea pigs, 10 c. c. of milk to every one; none of the 32 pigs experimented upon has become tuberculous.

"7th. It has also been said that a *first injection of tuberculin prevented tuberculous cows reacting with a second injection.* That the fact takes place, I will not deny. But I can affirm that it is rare, surely in less than 5% of the cases; on the other side, it takes place only in animals slightly affected, having lesions of little importance, almost insignificant, already encysted, perhaps not virulent, at least of little danger to the point of view of contagion. By opposition, I could mention a number of cases which did not stop to react to injections of tuberculin repeated 15 days apart. In many establishments I know the test is renewed every 6 months and every 3 months, the tuberculous subjects, recognized as such at the first, are still reacting.''

For Prof. Nocard, as for almost all veterinarians, the diagnostic power of tuberculin is well established,—and his method to make agriculturists and breeders know its value is one that can be but beneficial to the cause of the control of tuberculosis.

MALLEIN.—If the value of tuberculin has found in Prof. Nocard a champion, so to speak, he can also claim the same title for mallein, notwithstanding the objections that are presented to its general use by some French authorities and principally by Mr. C. Leblanc. While this last eminent veterinarian does not deny that mallein has great value, he hesitates to accept it as a panacea and specially objects to its general use in large establishments, where glanders would exist, and in which after malleination, numerous animals condemned by the test would be discharged and might after all be found in perfect health at post mortem. This amounts to saying that mallein will not always tell the truth; and Mr. Leblanc bases his opinion upon the results observed in some cases where no lesions were found, except *translucid tubercles*, which he cannot consider as lesions of glanders, inoculation of their contents having failed to produce the disease.

In answer to the severe criticisms of Mr. Leblanc, whose authority in the matter is not to be ignored, Prof. Nocard has recently carried out experiments which he reported at a meeting of the Société Centrale which go to substantiate not only his former statements in relation to the propagation of glanders by the digestive tract, but also proves that the *translucid tubercle is beyond doubt a glanderous lesion, and constitutes the first stage of the evolution of the classical tubercle;* and that the *translucid tubercles are much less rich in microbes than the caseous tubercles and that the microbes which they contain are rapidly destroyed by the cells.*

For some of us who have had horses destroyed for glanders and found but a few of these translucid tubercles, the conclusive experiments of Prof. Nocard will strengthen their belief in the diagnostic value of mallein. Personally we feel that while perhaps more has to be learned in relation to mallein, certainly its value in establishing a diagnosis of a disease whose lesions may be very limited can no longer be doubted.

REGULATION OF VETERINARY PRACTICE IN FRANCE.—It is a point of rather peculiar significance that in the administration and the enactment of laws relating to this important subject, to find that in France, the birthplace of veterinary science, the veterinarian is not protected in his rights as much as in America, the last of the countries of the world where veterinary medicine has been established. To-day in France it is true the practice of veterinary medicine has certain rights which are well defined by law,—but in France yet veterinarians, especially in country districts, have to fight their way against quackery. The Government has time and time again been approached, bills after bills have been presented to the Chamber of Deputies in Paris, veterinarians all over the country, veterinary societies, all in fact connected with the practice of veterinary medicine; have appealed to the powers that be, but their efforts have always failed to reach the desired object. How different the subject stands in the United States, where we might say veterinary medicine has existed only since yesterday, and where we find in many of our States the veterinarian protected by sound and judicious legislation. The registration of none but regular graduates, which is required in several of our States, the certificate of licenses which is to be obtained from boards of veterinary examiners, and without which the registration cannot take place, and the privileges that are granted only to those who are thus registered, is a condition of which the young American profession can be proud of when glancing at the present state of the old French veterinary science. In one of his excellent "Chronicles," in the *Presse Vétérinaire*, we understand that Dr. L. Garnier intends to take advantage of the manner in which the veterinary profession is regulated in America to urge upon the French government the necessity for similar legislation in France.

International Veterinary Congress of Chicago.—A letter of inquiry will be found in our correspondence which is of some importance. Mr. Morot claims to have given not only his adhesion to the Congress, but to have also paid for the *comptes rendus* of the meeting. It is to be hoped that the secretary will do justice to the claims of our French *confrère* whose address may have been lost at the office of the secretary of the Congress.

Exportation of Horses.—Apropos of the great increase in the export of American horses to England, some interesting statistics of which will be found in the news department, we would strongly advise the United States Government to exercise the greatest care in the inspection of horses leaving her shores for that destination, as the cry of "glanders" is already being raised by the English breeders against foreign horses. It is well known that this loathsome disease does not exist in our breeding districts, but only in the large cities, and that our exports are exclusively from the stock farms; but, with our experience with other live stock—notably cattle and hogs—we have a right to anticipate the same experience with our horses when the breeders of Great Britain become alive to the enormity of this new industry. The Government should, therefore, exercise the greatest vigilance in the systematic inspection of the exports, keeping a careful record of each individual, the state, county, and farm (if possible) from which it came, so that in case of a question as to the presence of a contagious disease, the history of the animal can be traced from its destination to its origin, and if the charge is unjust the Government will be in a position to refute the imputation, and if true, to trace its origin, and prohibit further exportation from the same source,—with the effect of fostering an industry that has proven a great boon to our breeders in the recent depression that we trust we have about passed through.

THE CHICAGO VETERINARY COLLEGE.—The announcement that the Chicago Veterinary College will open its doors next fall with a three years' graded course, is certainly pleasing and important news. With this change almost the last obstacle is removed which prevented the American veterinary colleges from approaching a uniform course of instruction, a state of affairs which would solve other important questions now pending before the Association of Veterinary Faculties. Those who have an insight into the history of this college know that already eight years ago an attempt was made to arrange for a three years' course, but at that time no other colleges could be induced to take similar steps, and so the contemplated change had to be abandoned against better conviction but from common competition. Now the time seems to have been ripe for such a move, and we can heartily congratulate the Chicago Veterinary College upon the courage and wisdom of its leading members. If the course of instruction will be up to a modern standard, as we are assured, and if educated and experienced teachers will constitute the faculty, instead of routine practitioners, who by self-appointment and supernatural inspiration take to teaching, having no time nor inclination for study themselves, then the results will be very soon apparent in a new and healthy growth of this college. Chicago is sadly in need of a modern school and if the Chicago Veterinary College can fulfil its promises and supply this demand, its future is bright, indeed, and its renown a certainty.

THE MASTER HORSESHOERS' PROTECTIVE ASSOCIATION, of Oregon, has secured the passage of a bill through the Legislature of that State making all horseshoers pass an examination before a board composed of three veterinary surgeons and two horseshoers as to their knowledge of a horse's foot, and to show that they are qualified to be practical horseshoers, *i. e.*, able to take a bar of steel or iron and turn it into a shoe, which will show that they are fit to be master horseshoers and run a shop properly.

ORIGINAL ARTICLES.

[WRITTEN FOR THE AMERICAN VETERINARY REVIEW.]

HEART DISEASE.

BY J. A. COUTURE, V.S., QUEBEC.

CASE IV.—TRAUMATIC PERICARDITIS IN A COW—DEATH.

In my last article on this subject (page 749 of the REVIEW) I insisted upon the necessity of examining the heart carefully when we were called to attend a case of supposed disease of the digestive organs of cattle. The following case will illustrate this recommendation.

In cattle the most common disease of the heart is traumatic pericarditis, whose frequence is due: 1st, to the tendency of cattle to swallow foreign bodies with their food; 2d, to the proximity of the pericardium to the diaphragm, consequently to the rumen. The fact is that some authors, for instance, Freidberger and Fröhner, believe that pericarditis is always caused by a trauma in this class of patient. That is not always the case, however, for I have published in the March number of the REVIEW a case which was certainly not traumatic; the most careful autopsy having failed to reveal the presence of a foreign body in either the rumen, the diaphragm or pericardium.

On the 10th of March last I was called to see a cow that required immediate attendance. I found an Ayrshire cow, seven years old, pregnant seven months, and I was informed by the stableman that the fœtus must be dead as the cow was trying to expel it. The hand pushed into the passage found a dead fœtus; the head and fore legs were already engaged in the vagina. It was removed without trouble and so was the placenta. I was going to leave the place when the attendant informed me that the cow had been feeding very little for a fortnight and that within a few days a swelling had appeared at the brisket. I found her pulse 90, weak; respiration 40; temperature 103. The patient was very weak, the rumen was sore on pressure, but was at a standstill, no rumination; diarrhœa was present a couple of days ago, but at this time she was constipated. The lungs were auscultated, with negative result; the respiratory murmur was audible everywhere and percussion revealed a dull sound opposite the 4th, 5th, 6th and 7th ribs up to about the upper third of the chest. The heart was then examined: Pericardial dullness present on large surface; the beats were very frequent (90) strong (though the pulse was weak), there was a very distinct noise of fluctuation at every third or fourth beat of the heart. This fluctuation noise could be imitated by gently shaking a bottle half full of water. There was an œdematous swelling in front of the sternum about the size of a boy's head. The diagnosis was easily made: Pericarditis (very likely traumatic), with fatal results soon. A treatment was prescribed, and I was to call and see the patient three days after.

When I called to see my patient I was informed that she was dead and buried; she had been found dead that morning. The attendant showed a piece of wire, three inches long, very pointed at one end, and he informed me that it had been found sticking through the diaphragm and the pericardium. About two gallons of a yellowish liquid had been found in the pericardial sac. The heart was atrophied to a certain degree (it is always the case in pericarditis). This was the only information I could get from the man, but it was sufficient for me.

[Written for the American Veterinary Review.]

SOME REMARKS ON PERIODIC OPHTHALMIA.

By Geo. G. Van Mater, M.D., D.V.S., Lecturer to the American Veterinary College on Ophthalmology.

(*Syn: Moon Blindness—Recurrent Ophthalmia.*)

This affection is intimately related to certain climates, systems, soils; showing a strong tendency to recur again and again, and usually ends in blindness from cataract or other serious injury. Its causes may be attributed to soil. On frequently over-flowed river bottoms, or marshy grounds, and on coasts of lakes and seas, alternately wet or dry, you will find this disease. In France, Germany, and England, where they appreciate horses (and veterinarians) this disease has largely decreased under drainage, etc. There are many other influences,—for instance, cloudy air, wet, damp climate and lands, as all these act to produce lymphatic constitutions, with an excess of connective tissue,—bones and muscles, of coarse, open texture, thick skin, "gummy" legs, long, coarse hair, etc. For instance, the heavy horses of Belgium and southwest France have suffered severely, while the high dry lands of Catalonia, Spain, and Dauphiny, Provence, and Languedoc, in France, have been lightly touched. Rank, watery foods are another cause, and the most likely situations to obtain such fodder are as described above—the marshy, wet lands. This rank feed undermines the nervous and sanguineous temperament and superinduces the lymphatic. Other foods act by leading to constipation. The period of dentition and training is an exciting cause, and it will be noticed that "moon-blindness" appears most frequently between the ages of two and six. Among other causes are local irritants, dust, smoke, severe rain and snow, acrid vapors, etc. No *one* of the above mentioned causes will suffice to cause it. *The* alleged cause is a microbe, or the irritant products of a microbe, which is harbored in the marshy soil. The prevalence of the disease on the same damp soils that produce ague in man and anthrax in cattle has been quoted in support of this. Also on certain farms irrigated by town sewage, we find plenty of cases of periodic ophthalmia. The presence of a definite germ in the system has not as yet been proven, and therefore, in the present state of our knowledge, we are only warranted in saying that the cause is in the *deleterious emanations* from the marshy soil in which bacterial ferments are constantly producing them.

Heredity is one of the most potent causes. The lymphatic constitution is, of course, transmitted, and with it the proclivity to recurrent ophthalmia. This is notorious in the case of *both* parents, male and female. The tendency appears to be strong, however, if either parent has ever suffered. Thus, a mare may have borne a number of sound foals, and then fallen a victim to this malady, and all foals subsequently born have likewise suffered. So with the stallion. Reynal even quotes the disease appearing in alternate generations, the stallion offspring of blind parents remaining sound through life and yet begetting foals which furnish numerous victims of recurrent ophthalmia. On the contrary, the offspring of diseased parents, removed to high, dry regions and furnished with wholesome, nourishing rations will nearly all escape. Hence some dealers take colts that are still sound, or have suffered from but one attack, from the affected section of country to the unaffected with confidence that they will escape. Yet the hereditary taint is so strong and pernicious that intelligent horsemen everywhere refuse to breed from either horse or mare that has once suffered from recurrent ophthalmia. The French government studs not only *reject* all unsound stallions, but refuse service to any mare that has suffered with her eyes. It is this avoidance of the hereditary predisposition more than anything else that has reduced the formerly wide prevalence of this disease in the European countries generally. A consideration for the future of our horses will demand the disuse of all sires that are unlicensed, and the refusal of any license to any sire which has suffered from this or any other communicable constitutional disease. Other contributing causes deserve passing mention : Unwholesome food and a faulty method of feeding undoubtedly predisposes to the disease and in the same district *the carefully fed* will escape in far larger proportion than those poorly fed. But it is the same as with every other condition which undermines the general health. The presence of worms in the intestines, overwork and debilitating diseases and causes of every kind weaken the vitality and lay the system more open to the attack. Thierry, long years ago, showed that the improvement of close, low, dark, damp stables, where the disease had previously prevailed, practically banished this affection. Whatever contributes to strength and vigor is protective. That is trite, but extremely applicable under this head. Whatever then is contributive to weakness and poor health is provocative of the disease in the predisposed subject.

The symptoms vary according to the severity of the attack. In some cases there is marked fever and in other slighter cases this may be almost altogether wanting, but there is *always* a lack of vigor and energy bespeaking general disorder. The local symptoms are in the main those of internal ophthalmia (for instance, such as are present in retinitis, choroiditis, irido-choroiditis, irido-cyclitis, etc., in all of which the conjunctiva may participate), with, in many cases, an increased hardness (tension) of the eye-ball (glaucoma), from effusion into its cavity. The contracted pupil does not expand much in darkness nor even under the action of atropine. Opacity advances from the margin (limbus) over a part or whole of the cornea, but so long as it is transparent there may be seen the turbid aqueous humor, with or without flocculi; the dingy iris, robbed of its clear, bright aspect; the slightly clouded lens, and a greenish, yellowish reflection from the depth of the eye. (And let me emphasize right here the necessity of ascertaining the tension of an eye before instilling atropine—the danger being that of precipitating an attack of glaucoma with resulting total blindness, of which more in some future paper.) From the fifth to the seventh day the flocculi precipitates in the lower part of the chamber simulating (or forming true) hypopyon, and exposing more clearly to view the iris and lens. Absorption commences, so that the eye may be cleared up in from ten to fifteen days. The characteristic of the disease is, however, *its recurrence* again and again in the same eye until blindness results. The attacks may follow each other at intervals of a month, more or less, but they show no relation to any particular phase of the moon, as might be inferred from the familiar name, but are determined rather by the weather, the health, the food, or by some periodicity of the system. From five to seven attacks usually result in blindness and then the *second eye* is liable to be attacked until *it* is also ruined. In the intervals between the attacks some remaining symptoms betray the condition, and these become more marked after each successive accession of the disease. Even after the *first* attack, there is a bluish ring around the margin (limbus) of the transparent cornea. The eye seems smaller than the other *at first*, because it is retracted in the orbit, and often after *several* attacks because of *actual shrinkage* (atrophy). The upper eyelid (*palpebrarium superioris*) in place of presenting a continuous arch has at about one-third from its inner angle (internal canthus) an abrupt bend, caused by the contraction of the levator muscle. The front of the iris has exchanged some of its clear, beautiful brilliancy for a lustreless yellow, and the depths of the eye (as before mentioned) presents a greenish yellow reflection. The pupil remains a little contracted, except in *advanced* and *aggravated* cases, when with an opaque lens (cataract) it is widely dilated. If one eye only has suffered, as is common, the contrast in these respects with the sound eye is all the more characteristic. Another feature is the erect, attentive carriage of the ear to compensate to some degree the waning vision. The attacks vary greatly in different cases, but the *recurrence* is *characteristic* and *all alike* lead to cataract and intraocular effusion with pressure on the retina and abolition of sight.

The *prevention* of this disease is *the* great object to be aimed at, and this demands the most careful breeding, feeding, housing and general management as indicated under causes. Much can also be done by attention to location, drainage, etc.

The treatment is unsatisfactory, but is largely the same for the common internal ophthalmias. Some cases, like rheumatism, are benefited by scruple doses of powdered colchicum, and two dram doses of salycilate of soda, twice daily. In other cases, with marked hardness (tension) of the bulbous from intra ocular effusion, puncture, or iridectomy, has helped. During convalescence, a course of tonics,—two-dram doses of oxide of iron, nux vomica, ten grains; soda sulphate, one ounce, daily, is desirable to invigorate the system and aid in warding off another attack. The knocking out of wolf-teeth and cutting out of the membrana nictatans is preposterous. The temporary recovery would take place in two weeks though no such thing had been done. And the breaking of a small tooth, leaving its fang in the jaw, only increases the irritation. I wish to acknowledge the splendid article on periodic ophthalmia by Dr. Jas. Law, in a "Special Report on Diseases of the Horse," 1890, which I have taken as the basis of the above.

INAUGURAL ADDRESS OF DR. F. W. SKAIFE,

PRESIDENT OF THE CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

GENTLEMEN:—I must thank you for the honor you have done me in electing me President of this Association. I assure you I appreciate the compliment, and nothing shall be wanting on my part, as far as I am able, to make the year a successful one. I intend to make a few random remarks and I hope to claim your indulgence for a short time.

To begin, I shall read a communication which appeared in the AMERICAN VETERINARY REVIEW some time ago (Nov., 1894). It is part of a letter sent to the editor, criticising things veterinary in California. This is an Eastern veterinary estimate of Californian quackery:

"This section ot the country is rank with what is called the old-time horse doctor, otherwise known as the quack, each with his own specific for lung fever, etc.; and, though they have lost a great many cases, it is strange the amount of confidence the public still retains in them. I met one the other day who did not believe in the administration of internal medicines, but is accustomed to slapping on a blister, with the remark that he has had twenty-four years' experience in the business, and if this does not do he don't know what will. Yet the man has a yearly contract with an ice company manufacturing artificial ice, and they have twenty-six fine horses in the stable under his care, besides the rest of his practice in that section of the city.

"Besides this man, I have met a fellow claiming to be a specialist in castration—claiming to be the best in the United States, and a more slovenly, dirty farm-hand it would be almost impossible to meet. The woods here are full of just these kind of men, and yet a board of examiners, consisting of graduated veterinarians, appointed by the State, allow these men to pass a bogus examination, and to go forth with a State certificate, fully licensed to practice veterinary surgery and medicine. They can talk of their societies, and the promotion of harmony in a profession, but where could there be harmony, or friendly discussion, where one-half the members would not understand what the other half were saying?

"I merely write this to give you some idea of the situation of things in the far West, and also some of the men I have to contend with. I think this place is at least twenty-five years behind the age in this profession, and no doubt it will take some time before the public will be able to discriminate between the old horse doctor and the modern veterinary surgeon; still time will tell."

Gentlemen, I need hardly say that this is a very absurd article, and one that needs very little refutation. Yet it shows that men will come here from the East who are absolutely incapable of recognizing the fact that there are as good practitioners here as can be found in America. Silence is the only way to treat an article of this kind; that is with the contempt it deserves. Yet this same article brings to my mind a few matters which might easily be remedied in our every-day practice. Take, for instance, the matter of dispensing medicines. Many members of the profession, with whom I had dealings in the East, dispense their medicines and send them out in wine, beer and sauce bottles, some of which are clean, others fairly clean, and others not fit to hold medicines or lotions at all. It looks particularly nice, for instance, for a lady to receive a bottle of medicine for a pet dog, stamped all over with "Worcestershire Sauce," and over this, or some part of it the label, sometimes gorgeous, of the lucky veterinary man sending out the medicine. The chemist who dispenses veterinary medicine, and there are many, is wise enough to send it out in good shape; so also is the patent-medicine man. Again, how often are powders sent out wrapped in old newspapers, and looking more as if they had come out of some second-rate candy shop than from the establishment of a professional man. Ointments and dog pills again are sent out in the cheapest and commonest of chip boxes. Now the chip box is a most useful article to the veterinarian, but they are totally unfitted to send out ointments in, unless those that are to be used immediately. Neat and clean dispensing is just as important to the veterinary surgeon as to the doctor and chemist, and I feel convinced that there would be nothing like so much grumbling in paying for medicine if we would but consider what a remarkably long way appearance goes.

There is yet another very important point, which certainly a large proportion of the profession in this country miss, and that is not putting sufficient value on instruments. I will illustrate what I mean by one instance that came under my observation while practicing in Springfield, Mass. I was out one day with a veterinary surgeon who was going to see a stallion that quidded a bit. He took with him a splendid case of dental instruments, which he displayed to great advantage. After he had examined the mouth and found the teeth very sharp, and one upper molar, the front one on the near side, rather long, he selected a pair of shears from his case and proceeded to cut the point off, which, after trying another pair of shears, he did. He then rasped the teeth, and charged the man ten dollars for the operation, which was paid at once. This charge seemed to me rather large. Now, many a man would have used a chisel and a hammer, and charged about a quarter of the price. Again, how many surgeons expect to have a proper value put on their work when an ordinary pocket knife is used for lancing abscesses, and for other minor operations. How many times do we see wounds of horses and dogs sutured with string; string and needle often twice too big for the nature of the wound, and without any relation to the size and nature of the animal.

There is no excuse in this country for poor instruments, for, in my estimation, America has a stock of veterinary instruments which for cheapness and utility cannot be surpassed.

I do not wish, for one moment, to suggest that these remarks apply to anybody present, nor do I suggest that surgery is practiced any more carelessly in this State than it is elsewhere, but I do know that there is a tendency among veterinary surgeons to become careless. I have felt this myself, and, though I may be preaching what I do not practice, still this gives me an opportunity to say what I know to be right.

Regarding the advancement made in our profession in the last few years, I think we have much to congratulate ourselves upon:—the uses of tuberculin and mallein, the better inspection of meat and milk, and the founding of efficient veterinary colleges throughout the country. But there is a great field for investigation, and though we may not be able to startle the world with such discoveries as the cathode ray, and Dr. Edson's cure for consumption, such diseases as cancer and glanders might readily be cured by discoveries of veterinary investigators.

A few words about advertising. This is a very important consideration with us. As soon as the young practitioner puts up his sign, the question immediately arises, "How shall I make myself known to the public in the shortest possible time?" I think, to put the matter in a nutshell, we should advertise the profession in a legitimate manner, and not individually. A man may contribute papers to societies, he may write letters to the papers, he may give lectures, but outside of good efficient work, I cannot see in what other way he can possibly advertise himself. Strict attention to business, and the making of friends, is the secret of success with nearly all the medical men in this city. One little matter that will surely help the young practitioner is to have the reputation of kindness to animals. He should become a promoter of the Society for the Prevention of Cruelty to Animals; he should avoid everything in practicing that gives pain, except when absolutely necessary. Anæsthetics should always be used where possible. Docking, ear-cutting and spaying should not be countenanced. As regards the former, docking, it is merely a matter of fashion. It is a mutilation of the noblest animal we have. The same might be said of ear-cutting, but I am glad to say that no dog can be shown hereafter, at a dog show across the water, with his ears cut.

Regarding spaying and the castration of the dog I quote from one of the first authorities upon the dog in America; namely, T. Wesley Mills. He says:

"It is impossible to predict what effect on the physical and psychic nature of the dog these operations may have. After ether, the subject may be little more than a useless, animated mass of flesh, unworthy the name of 'dog.' The author would not allow any dog he owned to be thus operated on, nor could he be induced to perform it except when the parts are diseased; and he hopes the time is not far distant when every reputable veterinary surgeon will take the same view of the case, or absolutely refuse to thus run the risk of destroying the dog, as a dog, merely to gratify the whim of some owner who wishes to shirk his responsibility. Every man should either not keep a dog at all, or keep the animal as a dog. A spayed or castrated dog cannot win a prize on the bench."

When we consider the difference in the practice of veterinary medicine of to-day, and that of the past decade, we have, I think, advanced as rapidly as the medical profession did. It was not so long ago that cupping and bleeding were resorted to as the sheet-anchor of nearly all inflammatory diseases. The barber's pole is significant of this. We will have to go steadily up the ladder, step by step, until we assume a position equal to theirs. Our fathers used a bullet with a blunderbuss. We to-day have a bullet for the magazine rifle. Both the weapon and the projectile are altered.

Opium is a mainstay in medicine, but we also use its alkaloids with the subcutaneous syringe. Then again, whilst aloes has still the same therapeutic action, some have ceased to use it for many cases where it was formerly considered all important. The setoning and blistering which was practiced in the treatment of pleuritis and pneumonia, is a thing of the past, and many other instances may be quoted in which the method of using the drugs is changed.

It has been by the blending of the teachings of science and of experience, but to-day we can point to a lower percentage of deaths in many diseases, and to the almost disappearance of some.

Without doubt, clinical study must form a large part of the training of the surgeon, human and veterinary, and especially so is this the case with the latter, for he has few of those aids to diagnosis which the surgeon of the human patient can apply.

At the present time we are comparatively in a state of quiescence; at least, there are no steps agitating our minds to any great extent, unless it is competition in its various forms, which seems yearly on the increase. I do not think legitimate competition is objectionable. It has a tendency to stimulate us and prevent lethargy. I speak more especially against misrepresentation by alleged practitioners, and others who encroach on our rights by representing themselves to be qualified to practice veterinary surgery, and thus imposing on country clients especially. This matter is one which certainly requires more attention than it has heretofore received. Now that the educational standard required of the student is such as to necessitate a longer period of study, and preparation through greater fields, I consider it is our duty, not only to the newly qualified veterinary surgeon, but to our own personal welfare, to try to combat the present state of things which certainly seems to be developing, and instead of allowing further obstacles to our professional progress to spring up, we ought to be seeking out fresh fields of occupation.

Gentlemen, it would ill become me to trespass upon your time any further, when we have such interesting papers ahead of us. I therefore will close this address, thanking you for your kind attention, and hoping you have found it in a slight measure worthy of interest.

SCIENTIFIC BREEDING.

By J. R. Kelso, D.V.S., Baraboo, Wis.

A Paper Read before the Wisconsin Society of Veterinary Graduates, February 5.

It is not my intention to present to you any special method or system to follow in breeding or selection, applicable to all breeds, or suitable to all breeders; neither to eulogize or provoke criticism for or against any particular breed or breeder, fully believing that a higher and more scientific system of breeding can be adopted by the breeders of each individual breed, and this, by a more thorough and scientific selection of sire and dam, and thereby reach a higher and more perfect physical conformation.

The primitive horse was a diminutive animal, not much larger than an ass, standing about thirteen hands high, the largest specimen not exceeding fourteen hands. *The head was* *disproportionate in size.* Pictures of these horses have been preserved to us in a very curious way. There were artists among the cavemen of those days. Their pictures of the horse and other animals, made on antlers and horns, are drawn "with a spirit, a rigor and a fire that would do credit to an artist of to-day." In the Swiss lake-dwellings of the stone and early bronze ages, we find not only the bones, but horses' bits made of stags' horns and bronze. These bits are only three and one-half inches wide, hardly suitable for a child's pony of to-day. A cob thirteen and one-quarter hands high required a bit four and one-quarter inches in width, and a Shetland pony of eleven and three-quarter hands required a bit of three and three-quarter inches in width, and shoes three inches wide. Modern bits for horses vary in width from four and one-half to seven inches. In the early and late bronze, also iron age, the horse was used for food and was tamed. Then Homer wrote of them being harnessed and used on chariots for war or races, and occasionally for riding, but were yet too small for any very special exercise in that way. Domestication had not yet commenced to tell in increasing the size of the animal. After losing all reminiscence of its former freedom, and with the care of man aiding it, a sudden improvement was the result in size and adaptability. From such period it has been improved into innumerable races and breeds.

Instances of Increase in Size from Scientific Breeding.—Mr. Anthony Hammond, in a recent issue of *Bailey's Magazine*, states that during the last 150 years the thoroughbred has increased three inches in height. In the racing volume of the Badminton library, it is stated that Poland has produced several thoroughbreds sixteen hands in height. Mr. Hammond also states that whereas fourteen hands was formerly the recognized standard for the hackneys, previous to 1885 it was increased to fifteen hands three inches, and at the latter date the R. A. Society was induced to allow entries in the hackney class of animals of that height and over.

Again, a Mr. T. Dykes says that "the primitive Clydesdale was the Galloway, the ancient Scottish native horse two inches or so less in height." Again, Lawrence, in 1809, gives the height of the Galloway as from thirteen to fourteen hands. Prof. Wallace, of Edinburg University, 1889, gives the height of the Clydesdale of the present day at from sixteen to sixteen hands two inches.

Reproduction and Conception—Is the function by which the species is preserved, and is accomplished by the organs of generation, the union of two fundamental elements, ovum and spermatozoa; and the development and growth of animated creatures dates from that instant when, by the act of impregnation the egg receives a specific stimulus from paternal spermatozoa. The impulse thereby communicated manifests itself by cell division and proliferation. Nature proceeds in the preparatory and maturing of the development of male and female germs in parallel steps, each step or mode of progress to the next being exactly its equivalent, and that one is of equal value morphologically and physiologically to the other. In the stages prior to union there is nothing even to determine the influence of sex. In character the sexual contributions are equal, therefore there can be no sexual determinative function for either to exert. Hence, the conceiving elements or cells being equal, then conception is the joining of two equals into intimate unity. From the joining of these two equals proceeds to multiplication of cells differentiated into embryonic organs and all this moulding occurs during the nutrient, retentive and protective pregnancy of the mother. Thus science seems to teach some beautiful lessons in monogamy and the equality of sexes. Thus we find the new individual must contain not only hereditary matter, but that even in male and female portions.

Breeding.—Whatever the animal, its form, organization and general make up, will be an indication of its true type and character. It is a fixed law of nature that this should be so. To illustrate: the thoroughbred horse is courageous, high strung, active, sinewy, impatient under restraint, and not given to carry much flesh or fat. The heavy draft horse carries much flesh, is docile, honest in the harness, possessing great bone and sinew, and is on the whole more sluggish.

Results of Improper Breeding.—In breeding lays the foundation for disease, bad conformation, transmission of undesirable characteristics, lowered vitality, impoverished mental and nerve power, likewise of blood, resulting in more or less weakened condition of the two great life-giving principles, germ and sperm cells. Great evils result not only from the mingling of the blood of members of the same family, but that of separate and distinct races. In breeding an opportunity is never lost of securing, early and late, from the willing or unwilling, fit or unfit dam, a colt, calf, lamb, litter or brood. Further, the preservation of all these is aided by all the means in the power of science and art that can be brought into play. What is the result? The weak is preserved at the expense of the strong; off form and sub-standard are favored. Hence we have, as compared with nature's process, the survival not only of the unfit, which would otherwise have been killed off, but the development of all possible deteriorating characters, with some possible grains of wheat amidst much chaff, which, because they have pedigree to their name, escape final destruction. They are all devoted to the breeding pen, with a handing on to generations yet unborn, of all the worst accumulating predispositions of the germ-plasm. In the literature of the Bible, we read of the prophet Ezra condemning the Jews in these words, "When I heard this thing, the mixing of the holy race with other races, I rent my garments and my mantle, and plucked off the hair of my head and my beard, and sat down astonished."

This is an age of connivance, supplementing bodily defects and deformities by many and various kinds of artificial appliances. Go to any race track and there we find examples of what occurred on the Galesville track in 1894, out of twenty-seven-starters, no less than twenty-six wore hobbles. Look at all this work required to cover deficiencies. The perfect trotter must have a trotting spirit in a trotting body. We have fallen largely into the habit of looking more to the reputation of a trotting stallion or family for speed than to their way of going; while fast horses of every conceivable variety in shape and conformation are made for a time steady trotters, by the use of all sorts of weights, boots, pads, hobbles and other appliances. In the application of all these artificial means to make up deficiencies of bodily form, we have overlooked the all important fact of so selecting and breeding, that nature shall supply with a conformation that obviates all resorts to such appliances. I also claim, without fear of successful contradiction, that three times a week, or every other day, is as often as any horse should be permitted to service. Oftener than this, the seminal fluid of the sire is immature; and if a colt is produced at all, he will be almost sure to be big-boned, loose-jointed, uncompact muscle, with feeble constitution. Were proper attention paid to this matter, failure to impregnate would occur much less frequently than it now does. Further, in my opinion, better results may be acquired by breeding the dam as near the end of heat as possible, thereby allowing the ovum full time for maturity.

Heredity.—Heredity as generally understood implies the contribution of two sex elements, male and female. These are considered to offer certain constituents, however different they may be supposed to be, bearing certain hereditary influences. And that in two lines of descent, male and female, contributing their hereditary proportions, not only of the present type, but of type far distant. When the dam and sire both possess a due amount of vigor, the foal will combine in itself the most marked characteristics of both, while any quality peculiar to either of them is apt to be prominent in the offspring. Peculiarities of habit and temper force themselves upon the notice of every person familiar with domestic animals, and by close observation we notice that the slightest peculiarities are transmissable. Few people will gainsay the fact that brain power is hereditary, as we have ample proof in human beings, and is also well demonstrated in homing and tumbler pigeons, the young birds nearly always inheriting the homing and tumbling propensities of their parents. The results of training must not be confused with heredity. Heredity—its nascent power has always been present, more or less, in the animal. Training in such lines as such faculties may exist, develops it, intensifies it; the more of each, the more there will be to expect as the combined result. Therefore who would attempt to train a Clyde except for draft, a hunter except for clearing obstacles, a trotter except for trotting. These laws govern heredity in the brute creation as persistently as they do in the human family, and the introduction of good, or the eradication of bad qualities will be found amenable to the breeder's science through the potent agency *selection*. This forms the stepping-stone to scientific breeding, and until man has learned to take advantage of the hereditary tendencies toward good qualities, and works away from those that bring bad forms, bad temper, sterility, tendency to short life, and unpromising progeny, he is not worthy of being called a breeder of improved domestic animals.

Selection.—A sire or dam should be rejected for any one really bad fault. The greatest strength of either is limited by his or her worst point. They are often selected because they possess one or more very good points. This is a wrong principle in selecting. The selection of sire and dam should begin by rejection for bad points. Brood-mares should be selected with as much critical scrutiny as stock horses, individual excellence is the criterion always in view, and embraces size, form, blood, color, performance, including ample and facile breathing apparatus.

I firmly believe in a balanced structure for the greatest physical capacity. Moreover, I contend that the undue development of one portion of the organism is plainly at the expense of its co-ordinate part.

Applying these conclusions to the horse, I contend that when the horse is balanced, that is when he measures as high at the coupling as he does at the withers, and as long from the shoulder points to the posterior projection of the hips as he is high from the ground to the withers and the coupling, then the carcass is exactly balanced, upon perfectly proportioned limbs, and other essentials being present, such as blood elements and development, he can perform his duties, be they that of the draft- or the race-horse, with greater effect than if the mechanism was out of balance. Therefore to breed the natural born, actual trotter with the most certainty and the best results, combine the true and tried, genuine producers of such, and this principle holds good in all breeding.

In the future, when a more accurate science is applied to breeding the trotting horse than merely the intensification of his trotting blood, and physiological perfection receives its adequate attention, defective construction of shoulder and hip, of elbow and stifle, will be so far remedied by judicious breeding of perfect specimens that there will be neither splay-footed, nor pigeon-toed performers on the trotting turf. Physiologically, much more than in trotting potency, the perfect American trotter is in the distant future as a type.

EQUINE RELAPSING FEVER.

By T. W. Watson, V.S., Chippewa Falls, Wis.

A Paper read before the Wisconsin Association of Veterinary Graduates.

Called by Professor Robertson "surra," or equine relapsing fever, I have adopted the latter, as I think it better represents the general character of the disease. An enzootic disease peculiar to the horse, of which but little is known and but very little can be found in veterinary literature regarding this disease. The only account I have seen of it is given by Robertson, and is very indefinite. It first made its appearance in the vicinity of Eau Claire about seven or eight years ago, and has continued irregularly almost ever since, within a radius of about a hundred miles, very seldom, if ever, appearing where only a few horses are kept together, generally attacking large herds. The mortality has been very great from this malady; I think fully ninety per cent. of the cases prove fatal.

Symptoms.—Dullness, abdominal breathing, great elevation of temperature, runs from 105 F. to 108 F., pulse weak and irregular, mucuous membranes very pallid, staggering gait, there may be swelling of one or both of the posterior limbs, which may extend to the sheath and abdomen, very loud, unceasing intestinal murmur, sphincter ani relaxed, bowels generally loose and, owing to the relaxed condition of the sphincter, the fæces fall away without the animal making an effort to expel them, coat rough and dry, the general appearance of the animal would indicate over-exertion. Although the appetite is retained fairly well throughout, there is very remarkable loss of flesh or gradual wasting away, and as the disease advances, control of the posterior extremity is almost lost. It runs its course in from ten days to as many weeks.

I have made several post-mortem examinations without any very satisfactory results. The pallor observed in the mucuous membranes before death seems to be general in all the tissues throughout the body. In fact, the tissues have the appearance of being bloodless. I found in one an enlarged spleen, but in the others that I have examined the spleens were of normal size.

Aside from degeneration of some of the structures, nothing further seems to be observable.

Causes.—There have been a great many theories advanced as to the cause of this malady. It was thought for some time to be anthrax of the horse. This was succeeded by the very erroneous idea that it was a disease caused by eating the golden rod (*solidago odora*), and it is to be regretted that the latter idea was given so much credit by some veterinarians. It was a foolish conclusion, jumped at without consideration. No doubt you are all well aware that the plant contains no poisonous properties whatever. It has very slight astringent diaphoretic and aromatic actions, but is almost inert. Effusions made from the dried leaves are used with impunity by some people in place of tea. I think this is sufficient proof of the absurdity of the theory. I sent some specimens of blood extracted from a horse just before death to the Bureau of Animal Industry, Washington, D. C. Their report stated that in their examination they could discover no traces of anthrax, but on the whole their report was quite unsatisfactory, and I understand that other specimens have been sent to the Bureau since with about the same results. There is no doubt but that it is caused by a vegetable poison taken into the system through the mouth. The agent establishes itself in the blood, which seems to be its habitat, and causes destruction of the red blood corpuscles. Although I have given the disease considerable attention, I am not prepared to say positively whether or not it is contracted solely in the pasture, as I have seen it developed both in the pasture and in the stable, also on high and low land. Yet I am inclined to believe that it is contracted in the pasture and lies dormant in the system, only developing after a period of latency, when the system is in proper condition for its development.

Treatment.—The treatment of this disease has not been very satisfactory. Almost everything has been given in the way of medicine, but without availing but little, and I think we are as much at sea to-day as when the disease first made its appearance.

In my own experiments with the disease I have felt quite certain that I had found the right agent that would combat the ravages of the malady, but if successful in one case the result would be just the reverse in the next. About the only thing I would recommend in the way of medicine is heart stimulants and general tonics, and I think some good antiseptic, such as carbolic or boracic acid, would be worthy a trial.

The treatment has been so unsuccessful that the people have become discouraged and the majority have concluded to let them take their chances rather than go to the expense of treating them. Owing to the disease visiting only large herds, the loss has been confined to a few, mostly lumbermen. The number of horses lost will not exceed fifty per cent. of the reports circulated last fall.

COLLEGE COMMENCEMENTS.

NATIONAL VETERINARY COLLEGE.

The fourth annual commencement exercises took place at this college, April 11th, at 8 P. M. Speeches were made by Professors Salmon, Willits and Lockwood. The first college prize was won by E. E. Seitz, of Seitzland, Pennsylvania. Honorable mention was made of J. W. Petty, of North Carolina; W. R. Jobson, of Pennsylvania, and B. E. Harper, of the District of Columbia. Reid R. Ashworth won the junior prize for scholarship. The following received the college degree—D. V. S.: P. A. Fish, D. Sc., New York; E. E. Graffam, District of Columbia; R. H. Hadfield, Rhode Island; B. E. Harper, District of Columbia; J. M. Heagerty, Maryland; W. R. Jobson, Pennsylvania; C. H. Lockwood, District of Columbia; J. W. Petty, North Carolina; C. H. Morrison, Connecticut; F. H. Schneider, Pennsylvania; E. E. Seitz, Pennsylvania; John Lockwood, D. V. S., District of Columbia.

WHAT IS DOCKING?

Prepared by JNO. P. HAINES, President of the American Society for the Prevention of Cruelty to Animals.

Docking is the amputation of a portion of the horse's tail. The anatomy of the tail may not be fully understood, nor the methods of docking be generally known. We think it necessary, therefore, to acquaint the public with the facts about docking and with the opinions of many well-known veterinary surgeons upon the dangers, the cruelty, and the uselessness of the operation.

The tail is composed of bones, muscles, nerves, and blood-vessels, which are enveloped in skin, as sensitive on the under surface as on any portion of the body. The spinal cord or spinal marrow, is lodged in the canal of the backbone. It extends from the base of the brain to a short distance behind the loins, and it terminates posteriorly in a pointed extremity, which is continued by the mass of nervous trunks—*cauda equina*. In number, the spinal nerves are forty-two. They are in pairs, of which the superior is the sensory nerve, and the inferior the motor nerve. The horse's tail has fifteen bones and four pairs of muscles. These latter are known as the two *erectores coccygis*, the two *depressores coccygis*, the two *curvatores coccygis*, and the two *compressores coccygis*. They are all supplied with nerves of sensation and volition. To prepare a horse for docking, the common procedure is to secure him firmly by a twitch on his nose, to raise one of his forelegs to his breast and to tie it there, to cut the hair from around the stump of the tail, and to tie a string, or a piece of catgut, above the vertebræ which are to be removed. Finally, after the severance of the tail by the docking instrument, a red-hot iron is applied to stop the bleeding. As regards the torture, the behavior of the animal while undergoing the operation is sufficient evidence. The horse's first action is to jerk his head as violently as he can, but that movement is soon controlled by the twitch on his nose, of itself an instrument of torture; he then crouches nearly to the ground, and screams or moans with pain. The operation ended, he is found to be dripping with sweat. As witnesses have expressed it, "the water fairly runs off him."

Docking is advocated chiefly by grooms, who wish to spare themselves the considerable manual labor of caring for the tail; and upon the recommendation of such men the thoughtless owner of the horse consents to the mutilation.

The practice of docking was introduced into this country many years ago from England. That the custom is an old one we learn from Hartmann, in his "*Traité des Haras*," p. 274. He reports that the Council of Calchyd, which met in England towards the close of the eighth century, prohibited the practice of docking horses, on the ground that it was "a barbarous custom." In our day and country docking has been condemned by the most prominent veterinarians and horsemen, and also by the United States Veterinary Medical Association at their thirty-first annual meeting at Philadelphia, Pa., September 20, 1894. A standing reward of a large sum is offered by our Society for the arrest and conviction of any person found docking horses.

The usual arguments for the mutilation are, first, that "the operation is nearly, if not quite, painless, owing to the low degree of sensibility possessed by the tail, and to the rapidity with which the amputation is effected"; second, that "removing some inches of the tail prevents harnessed horses from throwing it over the reins, and so prevents running away or kicking." These arguments are answered by Dr. George Fleming in a way that may be regarded as conclusive.

"Nothing," says that author, "can be further from the truth than the assertion that the tail is endowed with little sensibility. It is composed of bones, muscles, nerves, and blood-vessels as abundantly as any other part of the body. From inquiries instituted during many years and from personal experience, we find that when horses have run away, or kicked, owing to the reins getting under the tail, they have nearly always been 'docked,' and their behavior was, no doubt, due to their remembering the painful operation and consequent dread of anything touching the tail. A short tail is more readily thrown over the reins than a long one, as it is more horizontal, and the reins can more readily drop under it. Besides a person who would allow the reins to drop under his horse's tail is not fit to be a driver."

From an artistic point of view docking is a disfigurement which destroys the contours of the body. When it is preferred that the horse's tail be short, banging the hairs close to the stump is all that is necessary. There is, in fact, no single valid argument in favor of docking for any reason but disease of the tail. On the other hand, however, the diseases that may result from docking deserve special mention.

The most serious as well as the most common "accident," after the operation, is *tetanus* or lockjaw. Paralysis, due to inflammation of the spinal cord, may also ensue. If the ligature to check hæmorrhage has been too tightly applied, or the hot iron kept on too long, so that the stump becomes subsequently inflamed, the inflammation may extend to the muscles of the hind quarters and lead to gangrene. In other cases the bones of the tail have been known to become necrosed or carious.

To those who claim that in the hands of an experienced person the operation is often painless, we wish to state that one hundred and two well-defined cases of lockjaw were reported in 1891 by the officers of the Royal S. P. C. A., with a certificate in each case from the veterinary surgeon in attendance that the disease had been caused by docking, and we beg to submit the following opinions of veterinary surgeons:

"There is no justification for docking, unless the tail is deformed or diseased."—*Prof. Pritchard, Royal College of Veterinary Surgeons.*

"Docking horses is cruel, barbarous, unnecessary, and discountenanced by the profession."—*Dr. William L. Zuill, University of Pennsylvania.*

"The operation is one employed to meet the demands of fashion. It is needless, painful, and cruel, causing the animal much suffering, and depriving it of its only means of defence against flies and insects. In my opinion no language too strong can be employed condemning this cruel operation."—*Dr. Samuel K. Johnson, Chief Surgeon New York Veterinary Hospital.*

"I hope the day may soon arrive when veterinarians will refuse to perform the operation. With them, I believe, rests the solution of the problem whether or not 'docking will remain as it is, a useless, worthless, and inhuman mutilation.'"—*Prof. A. Liautard, M.D., V.M.*

"Those who practice docking do it clandestinely and cannot justify their act. That docking, or the mutilation of the tail, inflicts much pain and suffering cannot be denied. The structures involved—skin, muscles, nerves, blood-vessels, and bones—cannot be lacerated, and then seared with a red-hot iron, without causing intense and often prolonged pain."—*Dr. L. McLean, M. R. C. V. S.*

"Besides the cruelty which is acknowledged to be identical with the operation, there are reasons on the ground of physiology why the tail should be left entire."—*George H. Dadd,* "*Theory and Practice of Veterinary Medicine and Surgery,*" p. 395.

"Such operations as docking, nicking, and ear-cropping of horses must be classed together as not only cruel in themselves (useless and painful operations are cruel), but which render animals less valuable."—*Geo. Fleming, C.B., LL.D., F.R.C.V.S.*

"To say that the mutilation is nearly painless is an untruth which any veterinary surgeon knows. To say that it is necessary in order to prevent the horse from throwing its tail over the reins and causing kicking and running away, only shows that a poor horseman is talking to you on a subject which he does not understand. I am ashamed when such men claim to belong to our profession, as they are a disgrace to it. During my thirty-five years of practice I have known several deaths of fine horses due to this useless mutilation."—*John W. Gadsden, M. R. C. V. S.*

ONE HUNDRED AND FORTY HORSES were slaughtered in Glasgow during January for use as human food. The carcasses were all exported. The Belgian Government has, however, prohibited the importation of dead horse-meat into that country. Horse-flesh for Belgium must be alive when it arrives in that country and must be inspected by the Belgian veterinary officials.

REPORTS OF CASES.

TUBERCULOSIS OF A COW AND GOAT ON THE SAME PREMISES—WAS IT CONTAGION OR COINCIDENCE?

By G. Leo HagenBurger, M.S., D.V.S., Brooklyn, N. Y.

I was called last November to see a cow in a little place near Rockville Centre, L. I. On my arrival I was shown a seven-year-old cow, which had calved three times with the present owner during a period of five years. He stated that she did not act as brightly as usual, and that the milk supply was not as abundant as before; otherwise he had noticed nothing, except when moved, she would breathe very heavily and become easily exhausted when driven a short distance.

Symptoms.—Temperature, 101°; pulse, weak and intermittent, but became accelerated when the animal was moved; percussion and auscultation of the lungs revealed nothing; except over the cardiac region a large area appeared to be painful on percussion and dull on auscultation. I found a peculiar blowing noise, especially on diastole, moaning occasionally, coughing very little and seldom. Urine light colored, and a sample of milk taken showed on analysis 92 per cent. water, 8 per cent. solids, and very little fat; blueish in color; scant in quantity.

Diagnosis.—Pericarditis, with effusion, and hypertrophy of the heart.

Cause.—Unknown.

Prognosis.—Unfavorable.

Treatment.—Mild stimulants and diuretics, and iodide of potassium; hot applications to the cardiac region. I called two days later and found the animal not much improved. Advised to destroy, but owner refused. Continued same treatment. Animal succumbed the following day.

Post-mortem.—Heart six times the normal size, surrounded by a pericardium milk white in color (looked much like a bushel-basket), covered with tubercles, the size of a pea, with masses as large as a walnut. The mediastinum was also involved, while the endo and pericardium were diseased to such an extent that they represented more the skin of a wild porker, taken from the scapular region, than a pleural membrane. The lungs were clear, with the exception of a few subpleural glands, which were tubercular. The liver, spleen, brain, and other organs were normal, except that the latter showed an anæmic appearance, while the posterior extremities showed lymphatic exudates. The bushel-basket mass, known as the heart, weighed about 42 to 45 pounds.

The family used the milk from that cow for the last four years, and having a tuberculous member among them, was advised to use goat's milk by their physician for the patient. The animal was purchased, and supplied the necessary nourishing and health-bringing fluid to the above for five months. Three weeks ago the owner called at my office, requesting me to examine the goat, stating that she was breathing heavily, coughing, discharge sanguine in character from the nostrils, and as she failed to eat and drink he feared to use the milk, and therefore consulted me.

Examination.—Both lungs consolidated; temperature elevated, animal in distress, respirations hurried. I gave tuberculin injection, remaining in town that night to superintend the taking of the temperature, etc., and to conduct the autopsy the following morning.

Result of the Injection.—Well-marked case of tuberculosis pulmonalis, with the post-mortem lesions and the subsequent examination of the lungs by the microscope.

Post-mortem.—The lungs of the goat were a mass of tubercles, as well as the liver, showing not only caseous abscesses, but calcified nodules; along with a slight fatty degenerated condition of the cardiac organ.

This gives us another illustration of our government protection practised in our Empire State, and how much home rule we want in order that not only the healthy consumer of milk is afforded proper protection, but the miserable wretch that is already saturated with the bacilli, where as the last resource goat's milk is being administered.

PERIODIC VOMITION DUE TO GASTRIC LESIONS.

By James A. Waugh, V.S., Allegheny, Pa.

A large black mare mule belonging to the Q. M. Dept., U. S. A., had been used several years in the Northern territories, and in 1888 was shipped south to New Mexico. She suffered severely from periodic attacks of vomition about every twenty or thirty days, with symptoms simulating those seen in acute indigestion, except gaseous distention. Violent convulsions prostrated this patient at intervals of about forty minutes. She would invariably be attacked in the evening about sunset; would vomit about half a bushel of masticated food and fluids with much frothy saliva; would apparently recover in about three hours, but thereafter would neither eat nor drink for several days; then would apparently regain her natural condition.

The post quartermaster suggested that we condemn and dispose of this animal, but I urged that we keep her until a post-mortem would convince us of the cause of the trouble. This mule was a fine looking animal and was frequently taken in exchange for a weary pack-mule, then would suffer these attacks while out on a scouting expedition, and would again be turned in and soon taken out the same way, which was a source of amusement to those who knew her failings; finally she was used as a draft-mule about the post and was idle for some time, but this made no apparent difference in the frequency of these attacks, which ultimately proved fatal.

A post-mortem revealed a normal condition of the œsophagus, although I expected to find a thoracic jabot. We found old and discolored cicatrices in the mucus coats and muscular walls of the stomach with a small pouch or sac; readily admitting the middle finger, and the opening was from before backwards, and all these lesions were confined to the great curvature of the stomach. It is my opinion that these lesions were due to eating parts of wooden wagon beds when deprived of hay and coarse forage while on forced scouting expeditions or long marches. I have seen aged mules suffering with chronic indigestion and gastric derangement due to particles of hard wood penetrating partly through and lodging in the walls of the stomach, resulting in small abscesses. These cases puzzled me until post-mortems revealed the cause of the trouble.

A Tenth Cavalry horse was abandoned on the trail while scouting after hostile Indians, and was afterwards gathered up with other abandoned stock and was brought into the military post where I was on duty. He was turned with other supernumerary horses in the extra mule corral and was grazed with the herd every day. He suffered an attack of some obscure ailment that simulated acute indigestion with choking. Drenches were administered as indicated but were promptly ejected by vomition. I cast the patient with English hobbles, applied Varnell's mouth speculum and was about to introduce a celluloid probang, when the violent struggles of the animal broke the mouth speculum, and we were forced to release it. Medication was useless except hypodermic injections to relieve suffering. The patient was placed in a box stall, but was unable to eat or drink thereafter, and emitted a very fœtid odor and much saliva and mucous from the mouth and nostrils. Mosquito-bars were used as fly nets on this patient, but notwithstanding this it would be blackened with flies during the day when the other animals were out grazing. Antiseptic lotions were used without avail. The post surgeon occasionally visited the corral and saw this unfortunate patient and recommended the commanding officer to call a board of survey to condemn and destroy this subject, to humanely end its misery, which was done without delay. I deemed it inexpedient to make a post-mortem examination, owing to the excessively hot weather and the disagreeable odor, yet I waited for a more favorable case, which proved the mare mule first mentioned, which accounts for my anxiety to follow the case.

It appears horses and mules occasionally eat each other's manes and tails off, and particles of wood, when deprived of coarse forage or grazing, and some mules seem to acquire a habit of gnawing wood, especially when at leisure.

I saved a very interesting specimen from this mule's diseased stomach and placed it in an antiseptic fluid to prepare it for final preservation, calculating to present it to the museum of the American Veterinary College, but I was called away suddenly to consult with the Cattle Sanitary Commission of New Mexico, and spent twenty-eight days investigating diseases of cattle, and on my return found the specimen ruined by evaporation of the liquids surrounding it.

PUNCTURED WOUND OF THE FOOT.

By Robert Robb, V.S., Terre Haute, Ind.

During the month of June, 1895, I was called into consultation with Dr. Elliott, of this city, in regard to a mare that had been lame for two months, the result of a nail having been picked up on the street and penetrating between the inner border of sole and frog of the front foot. At the time of my examination the mare was very lame in the near front foot, and during progression the limb was carried off the ground, while in the standing position it was brought backwards with the toe resting on the ground. Around the head of hoof pus had been discharging more or less for three or four weeks, but had somewhat diminished. The parts were swollen and tender to the touch. During the time the mare had been under treatment she maintained good health. At the time the doctor was called in to treat the case, his line of treatment was in accordance with the case, but in spite of all that was done suppuration was the result at the place mentioned. Having informed the owners of my diagnosis, which was not very favorable, but made a statement that the animal was no good the way she was and worthless as far as work was concerned, but if they would consent to an operation we would fathom and trace the nail-hole as far as it went and in so doing the chances would be in favor rather than against her, even if she did not make a complete recovery, and a more correct diagnosis could be made. After some hard talking they decided in favor of an operation. On the following day the mare was led out on a bed of straw, hobbled and cast. After the choloroform was administered by the doctor and everything ready the limb was released from the hobble, the foot cut down into proper shape (as it had grown very much since her mishap), a solution of bichlor. hydrarg., 1 to 1000, was used in washing the foot thoroughly before the operation; a ligature was then applied below the fetlock. Then taking the foot we cut down, removing part of the horny frog and sole, making the opening somewhat circular in form. This being done the direction of the nail-hole could be seen distinctly passing obliquely downwards and somewhat outwards. This was followed by removing the same area of sensitive frog and sole, thus bringing into view the coffin bone and flexor perforans tendon, to the extent of the opening; the sole of the coffin bone was as black as tar. How far this extended it is impossible for me to say, but this was removed by curetting. The parts were kept washed thoroughly during the entire operation with a solution of bichlor. hydrarg. The dressing consisted of Sal.–Lister and absorbent cotton, with plenty of pressure on the sole from the bandages that were applied. The ligature was removed from below the fetlock, after which we had some hæmorrhage, which looked a little discouraging, but it soon subsided. The hobbles were removed and the animal allowed to rest in the recumbent position, after which she rose none the worse for the operation. Not having seen the mare afterwards, although I kept track of her through the doctor and owners, a fungus growth appeared two weeks after the operation, which was removed by argenti nit. In four weeks after this she was removed to pasture and allowed to run up to the last of September, after which she was brought to the city with as perfect a foot and as sound as before her misfortune.

LACERATION AND PUNCTURE OF THORAX IN A DOG.

By G. Leo HagenBurger, M.S., D.V.S., Brooklyn, N. Y.

An Italian greyhound was brought to my office on April 2. Owner told me that she jumped on an iron picket fence and lacerated the chest the night previous. An examination showed a cut between the second and last ribs to such an extent that a portion of the left lung protruded. The animal presented a pitiful appearance. I at once put the animal under ether, and placing it on the table disinfected, washed, and, handling the lung with a clean steamed towel, succeeded in putting ten sutures in the pleura and costal muscles, afterwards closing the skin with twelve more. An iodoform dressing, with collodion and a bandage, were then placed over the whole side of the chest and abdomen. The animal made an elegant recovery, without a drop of pus or discharge, in ten days, but refused food for five days. Temperature 105°, lasting four days after the operation. Slight pleuritic symptoms developed, and were treated in the ordinary way, and iodide of potassium administered after the febrile symptoms had subsided.

Since that the owner tells me that his "Isabella," as he calls her, has lost all pleasure and desire for jumping fences, accompanying her master on his usual morning ride in the saddle; a sport which he was unable to prevent her from indulging in except through the above described accident.

A NEEDLE IN THE TONGUE OF A HORSE.

By W. J. Martin, V.S., Kankakee, Ills.

Some months ago, being called to an adjoining village to treat a severe case of distemper, and after prescribing for the same, I was requested by a neighbor of my client's to go and see a mare of his that for several days had not eaten very well, and for the last day had entirely refused all food. The man said that he was afraid that she also had taken the distemper. Upon my arrival at his farm, which was at about dusk, the patient, a fine bay mare, aged about seven years, was led out into the yard for my inspection. The animal was a picture of perfect health, and I was totally unable to detect any signs of influenza or any other symptoms of disease. The thyroid and lymphatic glands showed no signs of tumefaction, and the stethescope revealed not the slightest abnormal sound in the trachea nor bronchi. The thermometer showed her temperature to be normal; no cough was present; no saliva dribbled from the mouth; eyes bright; ears erect and alert to every sound, yet she absolutely refused to touch some fresh oats which I offered to her. There was a case, I thought, that would puzzle even the famed Oracle of Delphi to unravel. After thinking the matter over for a few minutes I thought perhaps that some foreign body had become lodged between the molar teeth. These were immediately examined carefully, but without result. As I was withdrawing my hand in despair from her mouth for the third and last time, the back of it was pricked by a sharp point projecting above the dorsal surface of the tongue—this foreign body proved on extraction to be a small darning needle—it was driven entirely through the tongue, from below upward and projected backward toward the trachea. After removal of the needle the mare began to feed as unconcernedly as though nothing had ever happened.

It seems that a cigar box containing wax thread, needles, awls, etc., for repairing harness, had been kept on a shelf over the oat-bin and had been accidentally overturned into the oats and in this manner the needle had found its way into the mare's feed box.

What seems also strange about this case was the total absence of all inflammation of the tongue, the refusal to eat being due to the mechanical pricking of the roof of the mouth by the point of the needle which projected above the surface of the tongue.

PHARYNGEAL CHOKE.

By JOHN MINCHIN, V.S., Goshen, N. Y.

March 7, was called to see a bay horse, 15-2, 9 years old, suffering from enlargement of head and face, gums, etc. A few days before was driven about four or five miles, apparently in good health; tied under shed, where he stood all day—which was very cold. Next day appeared a little dull, and day after, with head drooping, and not caring much for feed. The second day his head was discovered to be swollen, when I was sent for.

On my arrival found the head from the ears to the lips very much swelled—especially the lips—which could hardly be moved, and in many places on the cheeks would pit on pressure. There was a slight discharge from the left nostril that on the fourth day was very offensive. After a good injection of bi-chloride (1-100) up both nostrils, and antiseptic and cold lotion to face, with a strong gargle of chlo. potash, I left, to call again in three days; leaving directions, etc.

On my arrival found the horse in better spirits, swelling going down, but mastication very troublesome. His eyes more bright, and his general appearance more satisfactory. On the owner going to see him next morning, to his surprise found the horse dead.

Post-mortem.—All the organs were normal, save the upper third of gullet, which was very much inflamed, and at the conjunction of the pharynx was almost constricted, where was found a large feed-ball, semi-masticated and dry. On removal of this mass, the surrounding tissues were highly impregnated with pus of a very offensive odor. There was found a slight necrosis of the turbinated bones, and also of the left nasal bone, which extended down the schreiderian membrane, which showed many lesions. Taking the length of time, say, five days from the discovery of the trouble, and the enormous enlargement of the head presented, the writer would be under many obligations to you, Mr. Editor, for your learned opinion of this case,—a case your correspondent in all his practice never saw the like of before,—which we hope to find noted in the next issue of the AMERICAN VETERINARY REVIEW.

RUPTURE OF THE HEART.

By WM. V. LUSK, Veterinary Surgeon 2d U. S. Cavalry, Fort Wingate, N. M.

Subject, an old mule, apparently in good health, very fat, and used as a pack mule in the U. S. Army. This animal was taken out one morning for its usual exercise, and after going about four miles dropped over without previous warning and died almost instantly. Post-mortem examination revealed a rupture about one inch in length in the upper portion of the right ventricle. The pericardium had also ruptured and a large quantity of blood was found in the thoracic cavity. Aside from the rupture the heart appeared in a perfectly normal condition.

The cause of the rupture is a mystery to me. The animal had not been driven faster than a walk and had been subjected to no violence whatever. General weakening of the muscular tissue, as the result of old age, was probably the cause.

GASTRITIS COMPLICATED WITH LAMINITIS FROM EATING PRUNUS VIRGINIANA.

By W. F. DERR, V.S., Wooster, O.

On Feb. 8th, 1896, I was called to see some horses that were being prepared for New York market, said to have taken poison of some kind.

I proceeded to the place as soon as possible and found two horses of about 1900 pounds weight, ready for shipping, and suffering from gastritis complicated with a very severe form of laminitis.

No. 1. Grey horse was down; pulse 90; temperature 105¾°; respirations 26; pains in abdomen. On making him rise he brought all feet under centre of body, but could not stand, and fell down again.

No. 2. Brown horse, very fat. Weight about a ton, very stiff and sore, in fact so sore that it was impossible to move him, even by persuading him with a whip. Pulse 92, angry, temperature 105½°; respirations 36; abdominal pains; evinced pain whenever he was touched. Bowels constipated, as well as arrest of the urinary secretions.

History.—Owner said he was out of straw and on the day before had hauled some sawdust into the barn for bedding, composed principally of Prunus Virginiana, which contained tannin, gallic acid, resin and other vegetable principles, of which they ate pretty freely, producing gastric irritation and acute laminitis.

Treatment.—One quart of raw linseed oil to each horse, with anodynes, febrifuges and demulcents, brought all the organs involved to their normal condition in about a week.

CHOREA CURED IN A DOG.

By Francis Abele, V.S., Quincy, Mass.

The following is an account of a case of chorea in a dog which was completely cured. As it was the first case of short standing I was ever called to, I would like to have it published, hoping some one else may recall a similar case and give his treatment.

Was called to a twelve-month old St. Bernard pup. Owner wished its sufferings ended. Wife wanted it treated. Wife prevailed. Dog would rise and fall, stagger and struggle to rise again. When assisted its spasmodic contractions would cause it to fall, sometimes over steps, boxes, my legs, and in fact anything within reach of its chain. It could not bark, but made a spasmodic "yip!" "yip!" The head would twitch and the fore leg would have excessive "knee action." It was difficult to hold him, not from his trying to get away, but his spasmodic tumbling.

Gave him about six grains of zinc sulphate, dissolved in about six ounces of tepid water. Later gave syrup buckthorn, full ounce, together with one of six powders composed of chloral hydrate, ten grains, and the same of potass. bromide. Left directions for other powders to be given four hours apart i warm water. When I called again, dog could bark a litt l spasms less noticeable. As powders were gone, had nux powdered added to the new six. When these were gone no signs of the chorea remained. Had restricted dog to well soaked bread in milk and water, that there might no irritant enter the stomach, then ordered bones free from meat, beside his bread and milk, to which was added syrup triple phosphate. He made a perfect recovery.

EXTRACTS FROM EXCHANGES.

FRENCH REVIEW.

SUPPURATIVE PHLEBITIS. — DEEP ABSCESS OF THE SHOULDER.—Mr. E. Jombert relates this case, which occurred in his practice on a three-year-old stallion which was suffering with an attack of generalized distemper. He had first abscesses in the sub-maxillary space, then on both thighs, and presented besides all the indications of a severe attack of bronchitis. Among the indications of treatment, the horse had been bled in the jugular. The patient did well as far as his attack of distemper went, but some four weeks after the wound of the jugular had not yet healed; and, besides, was very lame on the right fore leg, with a large swelling towards its posterior border. This proved to be a very deep and large abscess from which five quarts of pus were subsequently allowed to escape. The constant discharge which prevented the closing of the jugular wound was due to inflammation of the vein (phlebitis). This was treated by the application of a large blister, which was repeated daily, with the alternative application of warm poultices of flaxseed to avoid a slough of the skin. This treatment of the phlebitis proved very satisfactory in a few days, the discharge subsiding, the indurated cord of the vein gradually disappeared and the parts healed without leaving any blemishes.—(*Rec. de Med. Vet.*)

RHEUMATISMAL SYNOVITIS AND ENDOCARDITIS — [*Mr. Filliatre*].—The object of this record is to show that the existence of synovitis and of endocarditis are not rare, as might be indicated by the poverty of veterinary publications on this subject. An animal lame on the left hind leg with an acute synovitis of the great sesamoid sheath, was brought to the author, who, considering it of rheumatic nature, carefully auscultated the heart and detected a mitral sound well marked towards the base of the heart. The treatment prescribed consisted in the daily administration of one of the following powders:

℞. Sulphate of quinine, 25 grammes,
Salicylate of soda, 10 " "
Iodide of potass., 15 " "
M. In pulvis No. v. Give one every day.

With this a blister was applied on the diseased synovial sheath. Recovery was rapid.

Some three months later, the animal was again laid up with difficulty in breathing, after a short work. After ten minutes of trotting he showed the following symptoms: Well marked short breathing, violent cardial strokes, muscular tremblings at the elbow and at the stifle. At the auscultation, the mitral sound exists yet, but not so loud as at the first examination; the pulse is small and irregular. The animal was destroyed.—(It is to be regretted that the post-mortem is not recorded).—*R. de M.V.*

JAUNDICE IN A DOG.—In the *Bulletin of Veterinary Dosimetry* the following case is recorded: A nine-year-old spaniel dog, excellent for shooting, was suffering with jaundice; the conjunctiva, the gums were of the characteristic color, the pulse weak, no appetite, great dullness, etc. With little hope of saving him Mr. Viand prescribed 2 granules of hyoscyamine, 1 of brucine and 1 of digitaline, the four to be taken together and repeated every two hours. Black coffee with bouillon of carrots was also administered. A large mustard poultice was placed under the abdomen the following day. 48 hours later slight improvement; the dog is more lively and eats some. This improvement continued until the seventh or eighth day, when all symptoms having subsided, the treatment was stopped and the animal returned to his sport.

FACIAL PARALYSIS IN A DOG DUE TO TUBERCULOUS OTITIS.—In the *Review of Toulouse* Mr. Montfallet reports an interesting case of a pointer dog which was considered as a suspect of rabies. The symptoms which he presented, viz., appearance of being in pain, excessive loss of flesh, marked emaciation of the muscles of the left temporo-maxillary region; dropping of the lower lip, slightly deviated to the left, while the upper lip at the nose is drawn on the right; ears drooping, strabismus of the left eye; difficult mastication and deglutition; abundant flow of saliva and collections of food in the mouth; no alteration in the sound of the voice; all pointed to a different diagnosis, that of facial paralysis. On further inquiry it was learned that for some time back the poor animal had been suffering with auricular catarrh, which by examination of the discharge showed a large number of streptococcus pyogines. The treatment of this affection having failed, the animal was destroyed. At the post-mortem, the splanchnic organs, the serous membranes, the lymphatic ganglions of the abdomen, the lungs were full of tuberculous deposits. Some granular deposits are found on the meninges. The tuberous portion of the temporal bone hollowed was filled with serosity. The facial seemed atrophied. Examination of the granulations found in the middle ear and its surroundings proved them to be of tuberculous nature. It was the pressure of those granulations upon the facial nerve which had given rise to all the paralytic symptoms.

Opening of the Rectum in the Vagina of a Sow.—This peculiar abnormality, recorded by Mr. Ch. Morot in the *Journal of Lyon*, refers to an animal which was killed at the age of fifteen months. She weighed 90 kilos (180 pounds). She had no anus—but in its place, under the tail, there was a vertical cutaneous slit, deep and 3 or four millimetres wide and about 2 centimetres long. The lower wall of the rectum presented behind a wide round opening, the termination of the digestive canal and whose circumference arrived to the superior commissure of the vulva. The posterior end of the rectum was bent downwards and opened directly on the superior wall of the vagina by the opening above mentioned.

The animal did not seem to have suffered from its infirmity—she was fat and in good health.

ENGLISH REVIEW.

Obstetric Cases [*By O. Trevor Williams*].—1st. An old mare, that has reared several foals, is served twice, and after proper time was thought in foal by the owner. One day, it was found that when she laid down a white milky fluid ran in a stream from the vagina; when standing the flow would stop, to return as soon as she laid down. Examination of the vagina and uterus showed that the os was dilated wide enough to insert two fingers. Thorough washing with sublimate solution with stimulants and tonics relieved the animal in a week. The same author relates a case of hydramnios in a cow in which he removed (without exaggeration) some twenty gallons of fluid. As after the escape of this mass of fluid, the cow had difficulty to deliver, another examination showed that the fœtus was affected with congenital ascites. Embryotomy was performed and the heifer recovered splendidly.—(*Veterinary Record.*)

Effect of Morphia on a Bear [*By Mr. W. Kirk*].—

This gentleman being called to apply a nose ring on a bear recently bought for a menagerie and which was of very ugly disposition, administered seven grains of morphine hydrochl. mixed with half a pound of honey—the whole mixture being taken with delight by the animal. "The effect was rapid and the beast gave vent to the most terrible forest yells. The sclerotic coat of the eyes became intensely injected—the pupil contracted. For a minute or so he banged his head against the iron bar with great force. This stage of excitement soon passed off." Yet the sleep was not sufficiently sound to make it safe to operate and ether and chloroform were administered. The animal being well narcotized, the operation was performed without trouble. Mr. K. concludes: "There is no telling how much morphia a full grown bear could take, but judging from the amount given and the ether and chloroform inhaled, I should imagine had I given three grains more there would have been no necessity for the anæsthetic."—(*Ibid.*)

PARASITIC ENTERITIS AND EMBOLISM IN THE HORSE [*By Mr. E. R. Gibson*].—Remarking that while the intestinal canal of horses is subject to invasion by a variety of parasites; that their presence there is not as a rule attended by fatal results; and that some parasites do produce disease and ultimate death of their host, the author reports three cases in which at post-mortem strongylus armatus and tetracanthus were found with the lesions which they leave in the intestines and their arteries—where they were found in quantity. Though the smallest of the nematodes, these parasites are the most difficult to dislodge, the treatment against them is of no avail and yet their presence in number is always attended with serious results.—(*Ibid.*)

VENTRAL HERNIA [*By Mr. J. A. Thompson*].—This case shows the possibility of interference in abdominal surgery. A mare having received a severe kick on the right flank, was suffering afterward with a ventral hernia, whose opening measured about eight inches in length, with the result that a mass of intestines was protruding, under the skin, and made a swelling about the size of two ordinary bed pillows. After careful cleansing, disinfection with carbolic acid, the skin was incised, the wounds sponged out of the serum underneath, the uninjured intestines were returned in place, the muscles brought together with silk sutures, the skin sewed up with strong hempen cord. A pad of cotton saturated with carbolic acid and a tight bandage applied over the parts. After a pretty severe illness of about a week, in which the temperature one day reached 108° F., the mare got well. The silk sutures gave a little trouble, which disappeared as they sloughed away.—(*Ibid.*)

SEPTICÆMIA AFTER CASTRATION IN A CAT [*By Mr. W. R. Clarke*].—Ten days after being castrated a young Persian cat was showing symptoms of severe illness, which carried it off two days later. The cat was very weak, constantly vomiting and presented at the place of operation a surface where the hairs glued together by the discharge formed a solid obstacle to all escape of pus. The skin underneath was gangrenous, the abdominal muscles undermined with pus and the tissues of the abdominal wall, especially round the inguinal rings, were granulating freely. The cat died with septicæmia. All this trouble could have been avoided had the *long hairs* of this Persian cat been clipped short, as they must be in long coated animals.—(*Ibid.*)

ANCHYLOSIS OF THE JAWS IN A DOG [*By Mr. J. A. Nunn*].—An 8 months bulldog was unable to open his mouth properly, had difficulty in eating and was unable to defend himself; he could, however, drink. He was anæsthetized with ether and chloroform and by means of two small straps passed around the upper and lower jaws behind the canine, the mouth was forcibly opened with a loud snap, like the crack of a hunting whip. Massage of the joints, opening the mouth full three or four times a day, gnawing on large bones to make the dog move his jaws, were followed by comparatively perfect recovery, the dog was able to feed and to defend himself, though he showed unwillingness to open his mouth to its full extent himself.—(*Veterinary Journal.*)

CHOKING IN THE HORSE [*By Mr. E. Plant*].—The case recorded by the author is interesting only from the fact that the introduction and manipulations were carried out with the animal standing—held merely with a twitch and having his mouth open with a balling iron. The principal difficulty was at the moment when pressure was used to dislodge the foreign body, as then the animal struggled much; however, the operation proved successful after the second introduction of the instrument and the animal got entirely well after a few days of careful diet.—(*Ibid.*)

VOMITION IN A HORSE—ITS CAUSE [*By Mr. E. N. Jarvis*].—In the *Journal of Comparative Pathology and Therapeutics* is found an interesting detailed case of vomition in the horse. The animal between the 25th of January and the 15th of July was attacked at various intervals with vomiting, which the author, in the only time he had opportunity to see the act, describes as follows: "The animal drew up one fore leg, flexing the knee and holding it rigid; he then gave a peculiar low squeal, caused by the suction in of air, which I could see traveling the œsophagus; he then made a spasmodic effort with his abdominal muscles, and, lowering and stretching out his neck, forcibly ejected food, mainly through his nostrils, but a little by his mouth, and completed the operation by a short cough. The food was followed by a frothy mucous discharge after the first few emetic efforts, which were made every minute or two, with gradually increasing intervals between. The movements were so quickly performed that I only followed the whole by closely watching nearly a dozen attacks; they lasted in all about 45 minutes. The œsophagus remained for some time after this in a swollen condition, giving a thicker appearance to the lower part of the neck, and continuous spasmodic contractions passing up and down the gullet were prolonged for about half an hour after the vomition had ceased. He also evinced pain on pressure in a forward direction from the posterior border of the ribs on both sides." The animal was ultimately destroyed and a thoracic jabot was found, immediately in front of the diaphragm; being separated from the stomach by a simple contraction near the cardia. The walls of this dilatation were composed of the mucous and pleural coats of the œsophagus; the slit through the muscular coat measured 5 inches; the sac had a circumference of 12 inches at its narrowest part, it contained 1½ pounds of food in partly fermented state.

GERMAN REVIEW.

REMOVAL OF CALCULI FROM THE DOG'S BLADDER BY SECTIO ALTA. *Translated for the* REVIEW *by Frank H. Miller, V. S., of Berlin.* [*Maltzeff, St. Petersburgh Arch. for Veterinary Science, Vol. VII.*]—The successful removal of calculi by way of the urethra by perineal section is difficult.

In human surgery their removal by sectio alta is quite satisfactory, but up to the present it has not been employed in veterinary practice. M—— has applied it in canine practice with the result of the loss of but one case in a series of 12 operations. This exception was probably due to direct injury to the intestines, as during the operation the animal was very restless. Recovery, time averaged 18 days.

The mode of operation was to place the animal upon the back, and after evacuation of the bladder by the catheter, the same was flushed out with boric acid solution (2 p.c.). The seat of operation was sterilized, and by pushing the penis in its prepuce toward the left side, an incision varying from 4 to 7 c.m. was laid from the symphisis pubis forward in the linea alba, extending downward to the peritoneum, which was then carefully opened. The bladder was located with the sterilized fingers, and by means of forceps was raised and fixed in the abdominal opening, when a sufficiently large opening was laid upon its ventral aspect to expose the calculi, which was thus easily removed. The hæmorrhage was slight. The edges of the cystic wall were now brought into apposition by continuous suture of carbolized silk, the wound cleansed by 2 or 3 per cent. carbolic solution, powdered with iodoform tannin, and the organ replaced. The perietal wound was closed by interrupted sutures.

Bandages were applied in two cases only, as they served to make the patients restless. The healing of the bladder wounds followed per prima. No use was made of general anæsthetics, the application of which would undoubtedly have simplified the operations.

NOTE.—In view of the fact that perhaps with the single exception of distemper and its sequels, more dogs die yearly from disease either directly or indirectly due to urinary calculi than from any other one internal disease, this report of cases by Maltzeff is of unusual importance. There are but few diseases more interesting among our patients, and very few so poorly understood.—F. H. M.

CREOLINE POISONING IN HORSES. [*Translated for the* REVIEW *by Frank H. Miller, V.S., Berlin.*]—A creoline wash was ordered for two horses suffering from phthiriasis in the 11th Battery, 24th Artillery Regiment. While the former use of 4 per cent. creoline wash had not always proved successful in removing the parasites, a 6 per cent. mixture was used. Pierson's creoline in the original bottle was made use of, and to the amount used was added 600 grams which remained over from a 5 litre bottle opened 8 weeks before. This, however, did not appear to differ in any visible detail from the fresh drug. The mixture with water which was whiter than usual was attributed to the concentration.

Both horses upon which it was used appeared in perfect health before the bath and without any visible skin defect. The neck, mane, croup, and extremities were washed and the body only moistened and brushed smooth. The horses remained perfectly quiet during the application, but the attendants complained of burning sensations of the hands. After the animals had been returned to their places, the following symptoms were noted: One horse threw himself down at once, lay upon the right side and gave the impression of a very sick animal. The eyes were staring, anxious, conjunctiva deeply injected, pupils dilated, nostrils expanded, mouth opened wide, heart's action tumultuous, both heart sounds obscured in an indistinct murmur. The pulse was imperceptible; arteries hard and full; respiration superficial, 96 per minute; continuous muscular tremor of high degree; tono-clonic spasms of muscles of the extremities. The animal lost the power to raise himself. Appetite entirely suppressed.

Treatment.—Washed away the toxic agent so far as possible and made continuous application of water to the surface of the body. Internally, brandy, camphor and digitalis, subcutaneous injection of camphor and etheris sulphurici in proportion 1.5.

In half an hour the animal became more quiet. The danger of cardiac and respiratory paralysis quickly passed away. The pulse could be counted at 106 per minute. In 1½ hours the animal was by assistance able to rise and stand with support; pulse 48, respiration 20, muscular tremor diminished, the countenance became brighter, but still anxious. After 3½ hours from the time of washing the alarming symptoms had all subsided. Upon the following day the patient was bright, pulse and respiration normal; conjunctival mucous membrane, seal-red in color; muscular tremor absent. The extremities were swollen and in common with the skin upon the sternum and places which had been washed, wrinkled and like parchment in feel, also covered with a tenacious yellowish exudate. The urine was brown-red in color. Fæces small-balled, hard and of brownish-green hue, and passed with some difficulty, leaving also a distinct odor of creoline.

Upon the second day the urine was clear, the limbs less swollen and covered with an epithelial desquamation. The hair began to shed. Four days from time of the application the patient had entirely recovered.

The second horse also threw himself down, lay a few moments quite still, and tried to rise. Assumed the sitting posture, which he retained for about 5 minutes, after which he arose without assistance, going to his crib and feeding. The conjunctival membranes were also seal-red, pulse 96 per minute, respiration labored, muscular tremor well defined; the movements were uncertain and particularly those of the posterior limbs, while those of the anterior were ataxic in character. Although the skin of this animal was much the finer of the two, the symptoms were all milder and disappeared entirely after an hour. The urine was upon the following day of dark color, fæces similar to first case. The exudation from the cutaneous vessels was absent, and notwithstanding the evidently milder action upon the skin, the lesions healed much slower than in the former case. The particular reason for this poisoning can only lie in a too concentrated mixture. There was no acetic acid used in washing and the rubbing was not excessive. —*Rosartz Journal.*

NOTE.—These cases so carefully noted are of importance, and from several points of consideration. The prevailing opinion among practicing surgeons that creoline is a safe antiseptic has led to a very careless application of the same. While it is comparatively safe as compared with agents like carbolic acid, still its properties and possible impurities should never be lost sight of. There are several questions in the above reports, as the propriety of its application in such form, in such case? Purity of drug? Does it undergo change on exposure to the air? Idiosyncrasy? Treatment, etc.? F. H. M.

AMERICAN REVIEW.

EMBOLISM OF THE AORTA.—Dr. Noack, of Reading, Pa., reports an interesting case of this nature occurring in a mare, in the April *Journal of Comp. Med.*, the location of the embolus being in the posterior aorta, just back of the renal arteries and extending into the femorals, and causing enormous enlargement of the heart (it weighing 23½ pounds), the cardiac muscles being especially strong, along with enlargement of the liver, spleen, and kidneys. The following interesting symptoms were displayed by the animal just before being destroyed for the autopsy: The owner gave the history that whenever the mare was driven she would sweat profusely, walk lame, and then begin to stagger. A physical examination of the patient standing showed the mucous membranes of the eyes and nose very pale, beating of the heart feeble, and regurgitation of the blood into the heart could be heard. The heart sounds were irregular and scarcely audible; pulse feeble, but could be distinctly felt. The horse was then hitched to a buggy to see the symptoms when driven. She trotted the first four blocks all right, then suddenly the tail got stiff and twisted in a peculiar manner; she ceased trotting, and walked as though the muscles of her hind legs were in cramps. These symptoms disappeared in a few minutes, beginning to walk again, sweating profusely, but the hind part staggered so much that she was halted. Breathing was very difficult and accelerated; head, fore, and middle part of the body being covered with perspiration; not a drop of sweat on the hind part, which was evidence that the circulation in the posterior portion was considerably interrupted, thus leading the veterinarian to a correct diagnosis of heart failure and embolism of the posterior aorta.

TUBERCULIN AS AN ANTIPYRETIC.—In testing a suspected cow, whose mother was extensively diseased with tuberculosis during the period of gestation, the calf developing a chronic cough after having arrived at adult life, and in consequence being believed to have the same disease as her mother, Dr. Lusson, of Ardmore, Pa. (as stated in *Jour. Comp. Med.* for April), injected tuberculin on two occasions, when the temperature was about 102°, and in each instance there was a decrease of about one degree. Upon post-mortem she was found to be afflicted with traumatic bronchitis, due to finely masticated hay. He, therefore, concludes that tuberculin will reduce fever where not induced by tuberculous infection, and that in respiratory affections it possesses a sedative effect, as the subject was much easier for several days after each injection.

A VERY LARGE URETHRAL CALCULUS.—Dr. L. A. Greiner, of Indianapolis, Indiana, in the May *Journal*, reports a recent operation for the removal of an oxalate of lime calculus from the urethra of a horse, located about 2 ½ inches below the anus, which was very firmly imbedded in the mucous membrane, giving rise to great emaciation, difficulty in urination, straining, and paddling of the hind legs. When removed the calculus was found to be irregularly egg-shaped, and of the following measurements: weight, 6 ounces and 2 drachms; longest diameter, 3¾ inches; shortest diameter, 2 ⅓ inches; longest circumference, 10 inches; shortest, 7 ½ inches.

INOCULATING AGAINST TEXAS FEVER.

INTERESTING EXPERIMENTS TO BE CONDUCTED IN VIRGINIA TO TEST PREVENTIVE VACCINATION.

[From the Richmond, Va., *Star*, May 11th.]

Dr. Cooper Curtice, who was stationed here in March to cooperate with Dr. E. P. Niles, veterinarian of the State Board of Control, in carrying into effect the quarantine laws enacted by the last Legislature and establishing the quarantine line located by the proclamation of Governor O'Ferrall, has returned to Manchester to continue field experiments upon eighteen head of young stock from the pathological laboratories of the Department of Agriculture at Washington.

As stated in *The Star* of April 20th, these experiments were to be undertaken in Southern Georgia, but through the efforts of Dr. J. M. McBugle, secretary of the Board of Control, Dr. Niles and Dr. Harbaugh, the Secretary of Agriculture diverted them to this place.

Arrangements have been made with Major Joseph Walker for the use of his sheds for the experiment. Mr. Walker foreseeing the importance to the cattle industry of the successful outcome of the experiment, has placed every facility at the command of the Doctor.

It is well known, and has been a long accepted and sadly regretted fact, that cattle cannot with safety be brought from the mountains from northern or neighboring counties in summer time, because they are nearly sure to die with the disease variously called bloody-murrain, red-water, distemper, tick-fever, Texas-fever, splenic-fever, etc.

Fourteen of the cattle have been inoculated and have gone through a mild attack of the disease at Washington. These are brought here to learn if they are not proof against further attacks. The other four have not been inoculated, and may perhaps die.

These cattle are all perfectly healthy and have been since last fall, and have been under daily observation. They will be pastured upon the commons and treated exactly as all other cattle are in this region in order to subject them to precisely the same conditions that every cattle owner has to subject his new purchases. By this method only can the virtues of vaccination as a preventive against murrain be proven. The success of the vaccination experiments will enable cattle owners of the South to purchase vaccinated pure bred stock from any place to improve their herds with immunity from the disease.

The sheds to the southeast of the barn have been fitted with troughs, partitions, schute and stanchion and small office room and are now ready for the cattle which are daily expected.

In connection with these experiments, Dr. Curtice invites the assistance of dairymen in his studies of learning how to exterminate ticks most easily and cheaply. It is absolutely certain that ticks are a cause of the bloody murrain in cattle, therefore it is most necessary to remove them. Cattle which have carried ticks from calfhood never die, but adult cattle which never have had them die when first infested. The Doctor will visit neighboring farms and any aid in his task will be acceptable. He believes that with suitable measures taken to remove ticks, or to separate cattle, in two or three years at the outside, Chesterfield county will be as free from murrain as any mountain county and may be placed north of the quarantine line, again opening up its summer trade with Richmond.

The disease, bloody murrain, has been of late years the chief drawback to the improvement of cattle and the cattle trade of the South. Since its migration northward from Carolina about 1,750,000 of cattle have perished and many men ruined by the loss of entire herds. Legislation has since then been enacted and re-enacted by the State Legislature and not until last fall has there been a law which was competent to restrict the spread of the disease in summer time. Should Virginia eradicate the ticks from her southern counties traffic in cattle can be unrestricted through fear of disease and the quarantine line placed at the southern State boundary.

One clause in the present law for the protection of domestic animals should not be overlooked. This law permits owners to raise ticks on their cattle should they so desire, but intends to prevent their distributing them where other cattle may become infected by them.

REVIEW OF BIOLOGICAL SCIENCES.

ACTION OF SOME ELECTRICAL MODALITIES UPON BACTERIAN TOXINES.

By MM. d'Assonval and Charrin.

After studying the action of electricity upon microbes, the authors have tried to find what was the action of this agent upon the soluble products or toxines.

They have used the current, passing always in the same direction and made either continued or intermittent. The electrolytical action of the continued current has been tried upon two toxines : the diphtheric and the pyocyanic. After the experiment, the temperature of the liquid was scarcely above the surrounding temperature. MM. Apostoli and Laquerrière have claimed microbicide only the positive pole and have attributed this action to the chemical products made free at the contact of the positive pole ; raising oxygen, chlorides, acids, etc. These suppositions were not sustained by experiments ; toxine, in connection with the negative pole, has also been attenuated, as the injections made in animals proved it.

They have made analogous experiments with the continued intermittent current with high degree, and made the following conclusions :

1st. The continued or intermittent current at high degree attenuates the toxines at the positive as well as at the negative pole. It is then not a polar action. 2d. The attenuating action is not in proportion to the quantity of electricity which has passed through the toxine.

In a second note the authors record experiments which prove that toxines attenuated by electricity become vaccinating. They are again brought to the conclusion that the attenuation of toxines is not in proportion with the *quantity* of electricity which passes through them, but its *quality*. Currents with high frequency have completely destroyed the toxicity of the diphtheric toxine and that in the absence of all chemical action, simply by molecular concussion. This antitoxic action of currents with high frequency has a very great importance to the clinical point of view. These currents being without action upon the sensibility and the motricity, as proved by Mr. d' Assonval, it is to be hoped that they may be rendered sufficiently powerful to destroy or attenuate the toxine in the organism itself.

For a third note, they record facts which demonstrate that electrified toxines increase the resistance of animals.

In electrifying with currents at high frequency, a culture of pyocyanic bacillus they have observed an attenuation of the chromogeneous function. This attenuation of that function seems due to the modification of the bouillon and not of the bacillus itself.—*Soc. Biol.*

EFFECTS OF THE DIRECT REFLEX AND CENTRAL EXCITATION OF THE MESENTERIC VASO-MOTOR NERVES.

By MM. L. Hallion and F. Franck.

The authors have studied the action of the nervous system upon the intestinal circulation, with a volumetric apparatus, with the following results :

The mesenteric vaso-constrictors pass from the spinal cord in the sympathic chain by the thoracic communicating threads of the 5th dorsal.

The excitation of these threads produces an intestinal vaso-constriction, which is at its maximum, at the point of emergency of the sphanchnic nerves and upon the trail of the cords which connect the afferent threads.

There also exist mesenteric vaso-dilatateurs associated to vaso-constrictors in the 11th, 12th, 13th dorsal communicating threads, 1st and 2d lumbars.

Pneumogastric nerves excited in their peripheric end below the diaphragm, produce vaso-constrictors by a complex mechanism.

The excitation of the nerves of general sensibility stimulates the vaso-constriction of the small intestine and the vaso-dilatation of the colon and at the same time the contraction of the spleen and of the kidneys. The excitation of most of the threads afferent to the pneumogastric produces on the contrary reflex intestinal and renal vaso-dilatation, a double congestion, whose clinical manifestation is found in the abdominal painful affections.—(*Ibid.*)

INOCULATION OF THE TUBERCULOSIS OF GALLINACEOUS TO MAMMALIA.

By MM. Cadiot, Gilbert and Rogers.

The researches of these authors establish that the tuberculosis of gallinaceous is easily inoculated to rabbits, that it takes with difficulty in guinea-pigs, but after several passages in mammalia, may become very active for this last animal and stimulate in him, like the human virus, the development of visceral granulations; losing at the same time, its novice action against gallinaceous. By its passages in mammalia, aviary virus has lost its action upon chickens and has become pathogenous for dogs; an intravenous inoculation has produced in this animal the development of small pulmonary tubercles.

These facts seem to prove that they are two varieties or two breeds of a same species and not two different species.—(*Ibid.*).

ACCIDENTS PRODUCED BY ASCARIDS.

By M. V. Chauson.

The accidents produced by ascarids are: 1st, gastro-intestinal disorders; 2d, nervous accidents called reflex or sympathetic; 3d, general febrile accidents. The facts observed and the conclusions drawn from experiment show that ascarids may act upon the organism, not only as foreign bodies, but in producing a true empoisonnement.

Several authors mention the apparition, after the manipulation or dissection of ascarids, of cephalalgy, prurit at the head and neck, eruption of vesicles on the skin, conjunctivitis, chemosis, coryza, etc.

The author having injected, in the connective tissue of several animals, liquid prepared with the living ascarids of horses and swine, principally the citrine liquid running from the sections of worms cut in small pieces, has obtained consecutive accidents followed by rapid death in the guinea pig.

The rapid apparition of these accidents and their immediate intensity must be attributed to a chemical empoisonnement and not to a microbian infection.—(*Ibid.*)

THERAPEUTICAL RECORDS.

Compiled by W. V. Bieser, D.V.S., New York City.

Seat Worms in Dogs.—℞ Napthalini, gr. xv–xx; Ol. Olivae, ʒ i–ij. Mix. Sig. Rectal injection.

Scabies (Nouveaux).—℞ Petrolei, cerae albae, āā ʒ iv; spir. vini rect., ʒ v; saponis, ʒ x. Mix. Sig. Use locally.

For Inflamed Tendons.—A mixture of tinct. bellad. 1 part, and tinct. iodine 8 parts, makes a liniment which is a grateful application to inflamed tendons.

Frost Bites.—Bals. copaiba is claimed to be a specific for frost-bites, one or two applications being often sufficient to establish a cure.

Warts.—A mixture of the following painted on warts will cause them to become detached: Concentrated acetic acid, 10 parts; precipitated sulphur, 20 parts; glycerin, 50 parts.

For Burns.—As an application for burns Prof. Haas dissolves 1 or 2 parts of aristol in 4 parts of olive oil, and adds this to 8 parts each of petrolatum and lanolin, making a homogeneous ointment of the whole.

A Purgative Enema.—An efficient enema for use in cases in which a prompt and thorough evacuation is desired is made by mixing equal parts of magnesium sulphate, glycerin, and water, and adding about 8 per cent. of oil of turpentine.

Antiseptic Powder (Cazozzani),—℞ Pulv. camphorae, 5 parts; bismuth subnit., 20 parts; ac. salicylici, 20 parts; iodoformi, 55 parts. Mix. Sig. As an application to wounds and ulcerous surfaces.

Rickets in Dogs.—℞ Phosphorus, gr. j; spir. vini rect., ʒ v; spir. menth. pip., ♏ xxx; glycerini, ℥ ij. Mix. Sig. Six drops in water t. i. d. After the lapse of one week another drop may be added.—*Chem. Gaz.*

Fissure of the Anus.—Cleanse the fissure thoroughly with hot water and apply the following salve: ℞ Iodoformi, ac. boracici, āā ʒ ij; bals. Peru, gr. xxx; vaselini, ʒ iv—vj. Mix et fiat unguent. The above is also a fine local remedy for anal ulcers, and pruritis of the genitals in both sexes.

Antiseptic Adhesive Ointment.—℞ Zinci oxidi, gr. v; zinci chloridi, gr. xx; gelatinae, ʒ v; listerin, ℥ j. This dressing protects the surface of the wounds and dispenses with the use of bandages. It is especially of service for the dressing of wounds on the face.

For Pruritis Ani.—Berger introduces into the anus a pleget of cotton soaked in a saturated solution of chlorinated lime, and leaves it there until a slight smarting manifests itself. The region should be washed and left undried. Itching disappears as if by magic, but the proceeding must be repeated when it returns.

Fœtid Nasal Discharge.—Remarkable results are obtained by painting the nasal cavities with a solution of trichloracetic acid. The painting is done by means of a piece of cotton-wool fixed on the end of a flexible wire, steeped in a $\frac{1}{10}$ of 1 per cent. solution. The operation is done three times daily for the first few days and then once a day. The strength of the solution is gradually increased.

SOCIETY MEETINGS.

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

Address by President Dr. Leonard Pearson.[*]

Fellow-members of Pennsylvania State Veterinary Medical Association.—The years that have just passed have made great changes in our profession and in our work. The decade preceding 1893 was one of marvelous growth in veterinary schools, and in the number of veterinarians graduated in this country. During this period horses sold for unprecedented prices, and probably abnormally high. A great many inexperienced men engaged in breeding horses, and there was great demand for the "horse doctor." I use the term "horse doctor" advisedly, and in order to distinguish between him and the veterinarian, who is a much broader man. The domain of the veterinarian includes not only the horse, but every other species of domestic animal. Meat inspection, milk inspection, dairy-inspection and veterinary sanitation in general. At present the value of many classes of horses is greatly reduced, their owners are less willing than formerly to expend considerable sums for the treatment of their various ailments, and the one-sided veterinarian finds his services in less demand than formerly. I cannot believe, nor do those who should know most about this matter think, that the present low prices can long continue. Some horses are being sold for much less than the cost of production, and the breeding of horses is being discontinued in many places; but our export trade is rapidly growing, and as soon as there is a revival in the tone of general business in this country the demand for horses must inevitably be greater, and the supply and prices will go up; then also the legal restrictions that have been placed upon racing must soon become so obnoxious to free, self-respecting Americans that they will be materially modified, and racing, the sport of kings, will again become popular, with the attending impulse that this will give to the horse breeding industry in every section, even the most remote, of our country. On the other hand, our live-stock industry is in a most flourishing condition, and more attention is being devoted to dairying, the production of superior cattle, sheep, swine, dogs and fowls than ever before; and the broad veterinarian, whose work includes the consideration of the sanitary, medical and surgical questions in connection with these last industries has his hands full and his services in increasing demand.

---

[*] Read at meeting, March 3.

The value of expert veterinary advice in relation to the diseases of many of our domestic animals has never been sufficiently appreciated, through lack of opportunities to draw upon the knowledge and skill of the veterinarian. Breeders and farmers in many parts of the country have fallen into the habit, which is usually an inherited one, of depending upon their own narrow resources when their animals become ill or unthrifty from causes which they do not understand. A great part of the responsibility for this state of affairs rests with the veterinarian, because he has specialized to such an extent upon the diseases of horses that his broader domain is not sufficiently recognized.

It is the duty and privilege of the veterinarian, and this should be more generally understood by the public, to advance in every possible way the true and permanent interests of the live-stock industry, for this is the industry that we are trained to advance and protect, and from which we derive our livelihood; to do otherwise would be impossible. Notwithstanding this, veterinarians have recently been accused by some, who certainly must have known better, of conspiring to injure the source of their own income and profit. The position that the veterinary profession has taken in regard to bovine tuberculosis has been the ground for some bitter attacks upon us, but has alienated no true friend of the dairy farmer. The attacks which have been made upon us in this connection are not without precedents. When it became necessary a number of years ago for the Government and for states to adopt measures which would exterminate contagious pleuro-pneumonia in cattle, which at that time threatened the cattle industry and its millions of invested capital, the necessary inspections and restrictions were met by the strongest opposition, vituperation and sometimes physical resistance. The leading veterinarian of New York State was denounced as a conspirator against the dairy and a seeker for personal gain at the expense of the public. The opposition to this work was in some cases so bitter as to drive able men from the field.

Their motives were misrepresented, acts distorted and methods ridiculed, but what was the result? Contagious pleuro-pneumonia, which has caused untold misery and loss in European countries, in Africa and Australia, has been completely exterminated from our soil, and at a cost infinitely small when compared with the inevitable effects of the disease if efficient means had not been adopted. But in England, where the only efficient method could not be enforced, on account of adverse public sentiment, the disease persisted and continued its devastations for years, until it was found that the original recommendations of the veterinary profession *must* be acted upon, after which progress was rapid. In reference to rinderpest, foot-and-mouth disease, eldurine, glanders, sheep-scab, and many other diseases, striking and convincing illustrations of the same sort might be cited, all of which tend to show that as regards the subjects which properly come within the scope of the veterinary profession, its opinions are reasonable and safe.

We should, therefore, strenuously avoid any action that is not well considered and thoroughly sifted before official and formal opinion is expressed upon it. We must spread out broader and prepare ourselves more fully to perform the public duties that will soon be incumbent upon us. Meat inspection, dairy inspection and milk inspection are subjects that are growing in importance. Affairs that required no public supervision a few years ago must now, for the welfare of the public, be subjected to some sort of control. There was a time when every consumer could trace each article of home consumption to its source and determine its character; but as trade and competition increased, sources of supply became more and more remote, and frequently the quality deteriorated so that it became necessary to have appointees to perform the work which the individual consumer could not do, from lack of time, of facilities, and of knowledge. In this way various boards and inspectorships originated. At present the general government employs meat inspectors in each of the large centres of supply, and its force is growing rapidly. Municipalities employ meat inspectors, and their work is so valuable that this system is also increasing. The time will come in this country, as it has in some foreign countries, where all meat *must* be inspected by the veterinarian at the time of slaughter. The benefits to the public health which would accrue from the enforcement of this plan would be infinite when compared with the cost. Heretofore conservatism has prevented such supervision, but at present many are requesting it because they appreciate the advantage of superior reputation which such supervision gives their products.

Dr. Pearson then gave an account of the State Live Stock Sanitary Board, how it is constituted, what its object is, what authority it possesses, what it proposes to do, and also spoke of scientific work that it is desirable to do.

ALUMNI ASSOCIATION OF AMERICAN VETERINARY COLLEGE.

The nineteenth annual meeting of the Alumni Association of the American Veterinary College, was held in the lecture-room of the college building on March 25, 1896, at 2:30 P. M., and was called to order by the President, Dr. E. B. Ackerman.

After roll call, showing 27 members present, the minutes of the last meeting were read and approved.

The report of the Committee on Revision of By-Laws (articles 1, 2, 3, 4, 5, 6, 7), was accepted. The remaining articles were not completed, so the committee was continued.

The Executive Committee reported progress.

Treasurer Dr. Hoskins moved that his report be given to an auditing committee. Drs. Coates, Morrison, and Neher were selected as such committee and found the report correct.

The next order of business was the admission of new members. The graduating class was admitted in a body as members, which was followed by an address by the President, Dr. Ackerman, which was instructive to new and old members alike.

The election of officers being next in order, the following were elected for the ensuing year: President, Dr. L. H. Howard, of Massachusetts; Vice President, Dr. J. B. Hopper, of New Jersey; Secretary, Dr. Otto Faust, of Poughkeepsie, N. Y.; Treasurer, Dr. F. R. Hanson, of New York City; Librarian, Dr. W. V. Beiser, of New York City.

The next order of business was the election of members to the board of trustees.

Drs. L. H. Howard, Chas. Burden, and W. H. Lowe were elected as members to the board of trustees. The Secretary was instructed to notify the board of trustees as to the members elected.

The report of State Secretaries being next in order, Dr. Wray, of England, sent a lengthy report, which was read by Sec. Dr. Dair. Also reports of Dr. Fenimore, of Tennessee, and Dr. Faust, of New York.

Dr. Doepel moved to adjourn, seconded by Dr. Kaiser, and carried.

M. J. DAIR, *ex-Secretary.*
OTTO FAUST, *Secretary.*

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular meeting of this Association was called to order at the Academy of Medicine, Tuesday evening, May 5th by the President, Dr. Huidekoper, at 8.45 P. M. On roll-call the following members responded: Drs. J. S. Cattanach, J. S. Cattanach, Jr., Delaney, Ellis, Ferster, Giffen, Gill, Huidekoper, Hanson, MacKellar, Neher, O'Shea, Robertson, Sherwood and Turner. (15) The minutes of the previous meeting were read and approved.

The Board of Censors having no business to report, and there being no papers, the time was given to discussions, which was opened by Dr. Robertson, who asked whether the Board of Health had a right to take possession of, and to destroy animals that show a reaction to the use of mallein, without any other outward signs of glanders. A general discussion followed on that point, and on the symptoms of glanders in its various stages, and finally the following resolution was offered:

> *Resolved*, That the chair appoint a committee of three to communicate with the Boards of Health of the City of New York and of the State of New York, and to investigate the value given by law to the inoculation of glanders by mallein, and the extent of authority of the Boards of Health in the quarantining and condemning of suspicious cases of glanders.

The chair thereupon appointed the following committee: James L. Robertson (Chairman); H. D. Gill, Robert W. Ellis (Recorder).

Reports of Cases.—Dr. Gill gave a few reports on the use of antitoxine in tetanus with negative results.

Dr. Hanson reported a case in which the symptoms became aggravated immediately after the injection of the antitoxine, which did not abate until relieved by death, which soon followed.

Board of Censors, Dr. O'Shea, chairman, reported that our long-hoped-for jury bill failed to pass the Senate.

He then read a list of names of men registered in New York County since Oct. 1st, 1895, followed by a report on the investigation made by the committee, on cards that were handed in at the last meeting, to the effect that none of the men to whom their attention had been called were registered, but that they had so far failed to get an interview with them. Moved and seconded that the report be accepted. Carried.

Next in the order of business was the reading, by the Secretary, of the resignation of J. H. Ferster, V.S. The chair then asked the meeting their pleasure in the matter. Moved by Dr. Hanson and seconded by Dr. O'Shea, that the matter be laid over until the next meeting. Amendment by Dr. Gill; that it be acted upon at the present meeting. Vote on amendment lost. Vote on the motion carried.

New Business.—Moved and seconded that a committee of three be appointed by the chair to draft resolutions for alteration of that section of the By-Laws, covering the night of meeting. Carried. The following committee was appointed: H. D. Hanson (Chairman), J. S. Cattanach, T. Delaney.

Moved and seconded that the Secretary be authorized to obtain a bill from the Chairman of the Judiciary Committee for expenses of that committee. Carried.

Dr. O'Shea then notified the chair that a committee from the Horseshoers' Association was outside, with the request that the V.M.A.N.Y.C. indorse their candidate for Master Horseshoer on the Horseshoers' Examining Board, Mr. O'Neil, and that the V.M.A.N.Y.C. appoint one of its members as candidate for Veterinary Examiner of said Board.

Moved and seconded that the chair appoint a committee of three to recommend the name of Mr. O'Neil to the Governor as a member of the Horseshoers' Examining Board, and with the power to appoint a veterinarian.

The following committee was appointed: Thos. Giffen (Chairman), H. D. Hanson, F. W. Turner.

Moved and seconded that the members of the V.M.A.N.

Y.C. elect a veterinarian to the examining board at the present meeting. Carried. Dr. Gill was unanimously elected.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Sec.*

NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.

The Annual Meeting of the New Hampshire Veterinary Medical Association, convened in the Eagle Hotel, Concord, Tuesday, May 5th, at 11 A. M., with Vice-President Dr. Hart in the Chair.

Drs. Hart, Maguire, Libeo, Abbott, Wilkinson, and Pope answered to roll-call.

The following officers were elected by ballot for the ensuing year: President, T. G. Libeo, M.R.C.V.S.; Vice-President, F. E. Wilkinson, D.V.S.; Secretary and Treasurer, L. Pope, Jr., M. D. V.

Following the election of officers a discussion ensued over the action taken by Dr. Geo. H. Bailey, of the Maine Cattle Commission, against New Hampshire Veterinarians.

The Secretary was instructed to notify the Massachusetts Cattle Commission of non qualified men making tests with tuberculin now acceptable to that Board.

A paper was read by Dr. Abbott on Homœopathy in Veterinary Medicine which was most excellent in its preparation and delivery. The discussion following showed a strong feeling against the new school.

The reports of the Secretary and Treasurer were read and accepted.

The meeting adjourned at 1 P. M. until the September meeting.

L. POPE, JR., M.D.V., *Sec'y.*

PENNSYLVANIA VETERINARY EXAMINING BOARD.

REPORT OF THE SECRETARY.*

MR. PRESIDENT AND GENTLEMEN: As Secretary of the State Board of Veterinary Medical Examiners, I have been requested to present a brief report of the doings of the Board. At our meeting in September last at Cresson Springs, as you were then informed, no appointments had been made by the Governor to carry into execution the requirements of the act, and though the law went into effect nominally on Sept. 1st, not until Oct. 11th were the appointments made, after earnest solicitation that certain difficulties in its execution might be obviated. On this latter date Governor Hastings named the appointments as follows, their terms to compute from Sept. 1st, 1895: for three years, W. Horace Hoskins and Simon J. J. Harger; for two years, J. C. McNeil, of Pittsburg, and Harry Walters, of Wilkesbarre; for one year, J. W. Sallade, Pottsville.

---

* Read at meeting of the Pennsylvania State Veterinary Medical Association, March 3, 1896.

At 12 noon on November 13th the Board was sworn in at Harrisburg and their organization completed by the election of Dr. S. J. J. Harger as President and W. Horace Hoskins, Secretary. After a general conference of the methods to be followed the various subjects for examination were severally allotted to the different members of the Board and a sub-committee appointed to draft suitable by-laws for presentation and adoption at a subsequent meeting of the Board, held in Philadelphia, on the third Monday in December. At this meeting by-laws were adopted for the guidance of the Board, and no candidates presenting themselves for examination, the consideration of several alleged violations were referred to the Secretary for further investigation. One of these proved to be a graduate of Ontario, and who having changed his location several times, gave rise to the belief in the minds of one of our members that he was in violation of the act. The investigation found him properly registered in the State for several years and entitled to all the privileges of the several acts relating to the practice of veterinary science in our Commonwealth.

The second case has proved a very annoying one to the Board and will be prosecuted in the court channels this month. The violator, one E. S. Hudson, of York County, a former resident and citizen of Maryland, coming into the State during the year 1895, a non-graduate and failing to register, was notified by local veterinarians of the dangerous position he was assuming. Subsequently he repaired to Harrisburg, the county seat of Dauphin County, and there on Oct. 11th, 1895, in violation of the Acts of 1889 and 1895 he was registered by the County Prothonotary. On learning this we immediately placed ourselves in correspondence with the Prothonotary, and notifying him of the violation of the State statutes, which was thus perpetrated, he acknowledged the error, and will at the next session of the Court have issued a writ upon the said E. S. Hudson, to show cause why his name should not be stricken from the register, on the grounds of false registration, and the Board having given him an optional time to leave the State, at his request, his failure to comply with this agreement in the time limit given, compels the Board to enter suit at once. These facts having been placed in the President's hands, he has arranged to bring suit at once in the name of the Board.

Another case has come to the attention of the Board, but with insufficient data to act upon. The one charging the violation is a layman and seems more eager to punish the supposed violator than to see a proper enforcement and recognition of the requirements of the act. It is under further investigation at present and will be acted upon as indicated by the exact nature and surroundings of the case.

The third meeting of the Board will be held in Philadelphia, on the third Tuesday in April, the hour and place to be designated at a later date. Already a number of applicants are waiting and there will probably be in the neighborhood of twenty to come up for examination.

The Board already realizes the incomplete character of the act in failing to properly provide for the necessary funds to carry properly into execution the several provisions of the act. As all the expenses are to come out of the fund realized by the license fees, which are fixed at ten dollars each, and as these for a number of years must be necessarily very limited, the expenses of the Board, considerable for traveling, stationery, books of registry, etc., and all prosecutions of violations of the act to be carried on by the Board, we are somewhat alarmed at the prospect of much litigation which will demand a considerable outlay of money. The license fee should not have been changed from twenty-five dollars to ten dollars, particularly when this act will afford the greatest protection and benefit to those who are successful in passing the Board and receive its license to practice within our borders. The freeing of the registries of several counties of our State from those names of persons who are dead, or who have removed from the State, or in other ways violated provisions of the Act of 1889, is a work that cannot too soon be engaged in by our Association, in co-operation with the Board, and I trust will receive consideration at your hands to-day.

Very respectfully,
W. Horace Hoskins.
Sec. Board Veterinary Examiners.

CORRESPONDENCE.

MALLEIN BRUTE.

CHICAGO, May 11, 1896.

Editors American Veterinary Review:

DEAR SIRS:—Will you allow me to correct a rather peculiar mistake that occurs on the thirteenth line of page 165 of the May number of VETERINARY REVIEW? The Mallein which we supply is made at the Pasteur Institute in Paris. Pure Concentrated Mallein is known in France as "Mallein Brute," and this is the title on the label. The word "Brute," meaning raw, or concentrated, has evidently been mistaken for the manufacturer's name! I trust you will find room for a couple of lines making the correction, in your next number.

Yours truly,
HAROLD SORBY,
Manager Pasteur Anthrax Vaccine Company (Limited).

AN INQUIRY—INTERNATIONAL VETERINARY CONGRESS AT CHICAGO.*

To the Director of the American Veterinary Review:

DEAR SIR AND HONORED CONFRERE:—May I be allowed to ask you a question in relation to the International Veterinary Congress of Chicago? Though I have sent my subscription to the committee at the proper time, I have not yet received the *comptes rendus* of this great professional reunion.

Could you tell me if these *comptes rendus* have been published and if I can hope to ever receive them?

It is true, that I had addressed to the congress a work upon the inspection of meat, but I became a subscriber principally to obtain the reports of the international veterinary meeting of Chicago. Will my desire, so far unrealized, remain so forever? I cannot believe it.

Can you inform me on this subject? Kindly accept, with my sincere thanks, the expression of my perfect consideration.

CH. MOROT,
Municipal Veterinarian.

Rue des Tauxelles 20—Troyes-Aube.

BACK NUMBERS WANTED AND TO SELL.

Editors American Veterinary Review:

I would like to get Nos. 3 and 7 of Vol. II., AMERICAN

---

* Translated from the original French.

VETERINARY REVIEW, if possible. The bookbinder has all the numbers of Vol. I. except 1, 11, 12, which he would like to dispose of. Hoping you will be able to supply me with above numbers, I remain Respectfully,

WM. DOUGHERTY, D.V.S.,
1035 Cathedral Street, Baltimore, Md.

AS TO THE ILLEGALITY OF TAIL-DOCKING.

Editors American Veterinary Review:

DEAR SIRS:—Will you please state through your very interesting publication if there is any law upon the statute books of the State of New York against the operation of docking horses' tails, and direct me to the specific act? By so doing you will confer a great favor upon A SUBSCRIBER.

Answer.—There is no specific law in New York State against the operation in question, but the American Society for the Prevention of Cruelty to Animals undertakes to prosecute offenders under the general laws of cruelty to animals. They seldom, however, make an arrest, although the mutilation of horses by removing their beautiful tails is being practised upon an increasing scale, and, we are sorry to say, by many members of the veterinary profession who are highly esteemed. New Jersey and some of the Western States have specific laws against it. There are also higher laws than those enacted by man which cry loudly to the veterinarian to stop their barbarity to man's faithful servant, whom we claim as our special charge. If the graduated veterinarian does not discountenance this mutilation, and lead the sentiment against it, to whom can the horse appeal?—EDITOR.

MALLEIN AS A CURE FOR GLANDERS.

CHICAGO, May 23, 1896.

Editors American Veterinary Review:

GENTLEMEN:—As you are probably aware, the question of glanders in horses, and its diagnostic agent, mallein, has for some months past been a prominent subject of study and discussion in scientific and veterinary circles in France. At recent meetings of the Société Centrale de Médecine Vétérinaire (France), Dr. Nocard has presented the results of his experiments with mallein as a curative of glanders, the experiments having been carried out in conjunction with Dr. Roux, of the

Institut Pasteur. The conclusion reached was that glanders could be cured with mallein.

I wrote to the *Institut Pasteur* for further information on the above subject (curative treatment), and am this morning in receipt of a letter from them, of which the following is a translation:

"We received your letter of the 4th inst., which we have communicated to Dr. Roux, who has requested us to make the following reply:

"1. The dose of mallein solution is 2.5 c. c. for a horse of medium weight.

"2. In considering the reaction indicating glanders it is necessary to take into consideration

"1. The rise in temperature.
"2. The local œdema.
"3. The general condition of the horse.

"3. When a horse indicates complete reaction, inject 2.5 c. c. at intervals of about one month. The horse may be considered cured when he has shown no reaction at two consecutive injections.

"4. All horses treated in this way are not cured, the treatment being effective only upon those which have but slight lesions.

"5. The animals under treatment should be isolated."

Trusting that this information may be of interest to your readers, and holding myself at your disposal for any further particulars that you may desire, I remain,

Yours truly,
HAROLD SORBY,
Manager Pasteur Anthrax Vaccine Company (Limited).

NEWS AND ITEMS.

MARRIED.—On 2d inst., in Brooklyn, George J. Goubeaud, D.V.S., to Miss Emma Bernardine Quinn, both of Brooklyn.

DR. FRANK S. ALLEN, of Chicago, has been offered a chair at the McKillip Veterinary College, but he has declined the honor.

DR. LOUIS H. HEMPELMAN, of St. Louis, Mo., a graduate of the American Veterinary College, has recently received the degree of M. D.

DR. GILL has been nominated by the New York County V. M. Association as the veterinary member of the Horseshoers Examining Board.

"DAIRY BACTERIA" is the title of an interesting article by Allen S. Heath, M. D., of Brooklyn, which is contributed to to the July REVIEW.

THE MEMBERS of the Veterinary Medical Association of New York County are much pleased with their apartments at the Academy of Medicine.

DR. A. H. BAKER, of Chicago, has recently allowed himself the luxury of a marriage and purchase of a new and handsome residence. We wish the good doctor happiness.

DR. J. H. HONAN has resigned his professorship at the McKillip Veterinary College. He and his bride are now making a tour through England, Scotland and Germany.

THE BOARD OF HEALTH of St. Louis is compelling the inspection of dairies to improve the quality of the milk. They are also manufacturing tuberculin to test the cattle.

MISSOURI STATE VETERINARIAN.—Dr. F. E. White, of Sedalia, has received the appointment of State Veterinarian, to succeed T. J. Turner, D.V.S., whose term recently expired.

GLANDERS is quite common in some portions of New York City. The appropriation for glandered horses in the State of New York has run out, so that owners are no longer reimbursed.

ON account of the open winter and the low price of horses, veterinary practice has been quite poor in the vicinity of New York. The spring months have been much better, with still better prospects for the summer.

IT is reported that Dr. R. G. Walker, of Chicago, is endeavoring to organize a Chicago Veterinary Society. With a hundred veterinarians within the city limits there is certainly ample material for an active and bright association.

BROOKLYN, N. Y., has five graduated veterinarians employed in her various departments—three in the Board of Health, one each in the Police and Fire Departments. Four are graduates of the American Veterinary College, the other an M.R.C.V.S.

UNTIL matters can be changed, the country practitioner in New York State is debarred from the privilege of serving upon juries, while his brother in New York city and Brooklyn can enjoy the luxuries of the court-room and draw his stipend in the bargain.

THE NEW YORK COUNTY ASSOCIATION at its last meeting appointed a committee to communicate with the Board of Health of the city and State of New York, and to investigate the value given by law to the inoculation of glanders by mallein and the extent of authority of the Health Boards in the quarantining and condemning of suspicious cases of glanders.

AT THE BROOKLYN HORSE SHOW, held the 4th, 5th, 6th, 7th, 8th and 9th of May, the lack of veterinary examination of the entries was clearly shown, as in one or two instances lame horses were awarded prizes over sound ones, and the judges in one case rejected a very valuable road team for "curby hocks," which the owner very promptly proved incorrect by certificates of well-known members of the profession.

DR. WM. V. LUSK, veterinary surgeon to the Second U. S. Cavalry, stationed at Fort Wingate, N. M., will enjoy a furlough through June and July at Ashtabula, Ohio. The doctor is a frequent contributor to the practical writings of the REVIEW, and his cases are always interesting. We trust some of his leisure moments may be utilized to good account by recording some of the cases from his note-book for the benefit of REVIEW readers.

GRUNTING IN HORSES.—A circular letter was sent by the Lincolnshire Veterinary Medical Association to the Southern Counties Veterinary Medical Association (England) asking a general expression of opinion of the members upon the above subject, and after a liberal discussion, it was decided that a reply be sent as follows: "That in the opinion of this meeting, 'grunting' in horses does not necessarily constitute unsoundness."

DR. A. W. CLEMENT, of Baltimore, has recently been appointed State Veterinarian of Maryland, and too much cannot be said for the wisdom of the appointive power in having selected this scholarly and enthusiastic member of the profession for that position. His former connection with the federal control of contagious diseases, his natural bent for investigation, all tend to make him peculiarly fitted for his new position, and we are sure the profession and the country will be large gainers through his accession.

THE MODERN HORSE SHOW is doing more to encourage and popularize the well-bred pleasure horse than any other aggregation of factors now in existence. For the more popular this class of animal becomes, the better it is for the veterinarian. When the horse becomes a part of the household his ailments are cared for, not from a dollars-and-cents point of view, but as a matter of affection—endeared to the owner by his traits of gentleness, faithfulness, and other noble qualities. It behooves the veterinarian then to stimulate interest in the horse show, to encourage the purity of the contests, and when acting in the capacity of examiner to such exhibitions to insist upon fairness and exact justice in his estimate of the quality of soundness.

RINDERPEST IN SOUTH AFRICA.—Through the courtesy of Wm. Sheppard, M.R.C.V.S., of Sheepshead Bay, L. I., we have received a copy of the Bulawayo (Matabeleland) *Chronicle* of March 21st, which presents the most alarming evidences of a conviction that the dreaded rinderpest has attacked the cattle of that country, and the Government has taken hold of the cattle industry with a determination to throttle it before its devastating spread generally. To this end the movements of all cattle have been entirely suspended, and the inhabitants are suffering considerable inconvenience and privation, as the oxen (their chief beasts of burden) are under strict quarantine. We notice that Dr. Charles E. Grey, formerly an assistant to Dr. Sheppard, at Sheepshead Bay, is the Government Veterinary Inspector in charge of the outbreak, and through his printed quarantine regulations gives the symptoms and post-mortem lesions of the prevailing disease, which very closely resemble "The Plague."

SOME "DON'TS" FOR VETERINARIANS.—Don't undercharge your brother veterinarian . . . Don't take a brother practitioner's case without first consulting him . . . Don't think you have nothing to learn but read the leading veterinary journals . . . Don't talk too much about your cases—the silent man has nothing to withdraw . . . Don't use your patients roughly . . . Don't make agreements without fulfilling them . . . Don't torture animals unnecessarily . . . Don't speak disrespectfully of another practitioner as regards his qualities as a veterinarian . . . Don't work against your fellow veterinarian; it is better for both to work hand in hand . . . Don't speak ill of those men who have worked faithfully and conscientiously for the benefit of the veterinary profession, while you yourself have done nothing . . . Don't let non-registered men practice; you have spent time and money to learn and let others do the same . . . Don't forget that a man is known by the company he keeps

. . . Don't as a veterinarian, deal in horses as it tends to degrade your ability as a practitioner in the eyes of the public . . . Don't forget to join veterinary societies and contribute something towards their welfare, if only to report cases . . . Don't forget to subscribe for the AMERICAN VETERINARY REVIEW and other leading veterinary journals. "F. X. T."

THE IMPORTATION OF HORSES INTO ENGLAND.—The London (England) *Veterinary Journal* for May says: "The imports of horses continue to increase, and during the quarter ended March 31, they numbered 9210, against 4353 last year. Of the number imported this year, 6320 came from the United States, against 2904 last year; 791 from Canada, against 2; and 2099 from other countries, against 1447. The value of the horses imported this year was £240,540, against £131,939, the average value being a little over £26, showing that horses of an improved class are being imported. But when we turn to the exports we find some figures which must excite comment and action. There were 6334 horses exported, against 3755, and of these 1624 went to Holland, 3440 to Belgium, 673 to France, and 597 to other countries. The value of the exported horses was £113,899, against £74,414 last year, the average being only about £18. Examining the figures more closely, it appears that the average price of the horses exported to France was £53 per head, and of those exported to 'other countries' the average price was £44 per head. These are perfectly satisfactory figures, and show that so far, at least, the right kind of export trade has not wholly disappeared. But the value of the horses sent to Holland was only £9, and Belgium £10. Now, what description of animals can be bought for exportation at £10, and what purpose are they intended to serve? In some cases they would appear to be meant for the knackers. There have recently been police-court proceedings, and revolting statements have also been published as to horses being sent to feed leeches, which seem to throw some light on the subject. The statistics afford materials on which the R.S.P.C.A. should be able to set to work with some good results. This is a kind of export trade that ought to be closely scrutinized and suppressed."

ASSISTANT WANTED.—A young man of two or three years' experience in a mixed practice, energetic, not afraid of work, and preferably a graduate of the American Veterinary College. Address, at once, "BELLMONT," care AMERICAN VETERINARY REVIEW, 141 West 54th Street, New York City.

AMERICAN VETERINARY REVIEW.

JULY, 1896.

EDITORIAL.

HONOR TO WHOM HONOR IS DUE.

DR. GEORGE FLEMING, C. B.—In the *Veterinary Journal* for April, the worthy editor, Principal Williams, devotes a few remarks on the last honor granted to his predecessor, Dr. George Fleming, viz., that of a *special pension given by Her Majesty the Queen of England*. It is well for Principal Williams to have called the attention of the profession to the compliment paid Dr. Fleming, and we have no doubt that every veterinarian throughout the world will rejoice and say "well deserved." Of the modern veterinary generation there are but few men who have worked so hard for the profession, in the various capacities that he has occupied. His education, his knowledge, his efforts in behalf of the army veterinarians of England, his literary works (known to the whole of the English-reading scientists, to the practitioners, to the students), all his professional life devoted as it has been to the elevation of veterinary science, deserved well the honor placed upon him at this period of life, when he is entitled to retire from active work and enjoy the results of the good work he has done during a period of forty years.

DIRECTOR A. DEGIVÉ.—The reward just granted by the Queen of England is not the only one that has recently been bestowed upon a veterinarian on account of his past services. The January number of the *Annales de Bruxelles* brings us the news of another, which has for its recipient the worthy Director of the Cureghem Veterinary School, our friend and honored *con-*

frère, Professor A. Degivé. Some years ago the veterinary profession was elated over the election of Henri Bouley to the Presidency of the Academy of Sciences in Paris. This year our *confrères* in Belgium have just been celebrating the election of Director Degivé to the Presidency of the Royal Academy of Medicine of Belgium, and he has received the promotion of Officer of the Leopold Order. On the occasion of these double honors a professional manifestation, organized by the Belgian veterinary federation, took place on December 15th, and on the occasion a magnificent bust of Professor Degivé was presented to him in one of the large rooms of the veterinary school before an immense number of Belgian veterinarians, with government representatives, members of the teaching faculty, and all the students of the college. Among the several speeches that were delivered one by Mr. Brouwier attracted much attention, as he referred to the past life of the distinguished recipient, to his endeavors in behalf of veterinary science, to his efforts to improve veterinary education, and to the numerous works that he had contributed to the literature of veterinary medicine. The whole ceremony was one expression of unanimous appreciation, and that it was a reward well deserved—of an honor to one to whom honor was due.

The two above-mentioned recognitions of the value of the services rendered by two men in the performance of scientific duties speak well for those who were the receivers of the same; both of them have said, it was not to the individual that the honor was granted, but to the profession that they represented. Perhaps. H. Bouley, in his modesty, accepted the honor placed upon him as for the profession he represented. Fleming and Degivé, in their modesty, may say also that if the profession had not made the progress it has its value could not be appreciated as it is. That is true; but if it were not for men like the three we name here, who have been and are the standard-bearers of the profession, who devoted their time and their life to the onward push of veterinary science, it may be asked, would she have made the advances and the progress that she has? We fear not. And it is with this impression that we join our colleagues of England and of Belgium in sending our warmest and sincerest congratulations.

AN ASSAULT UPON AMERICAN VETERINARY SCIENCE.—A peculiar bill, and one fraught with dangerous consequences, has been introduced into Congress, and reported favorably, by the Committee on the District of Columbia. The bill is rather innocently entitled "for the further prevention of cruelty to animals in the District of Columbia." Its provisions, however, are as follows:—

1.—That hereafter no person shall perform on a living vertebrate animal any experiment calculated to give pain, making any person guilty of offense who performs or takes part in any such experiment.

2.—That experiments must be performed with a view to the advancement of any new discovery of physiological knowledge or of knowledge which will be useful for saving or prolonging life or alleviating pain, and that in so-called inoculation,—experiments or tests of drugs or medicines, the animal need not be anæsthetized, nor during the process of recovery from surgical procedure.

3.—That experiments must be performed by a person holding such license from the Commissioners of the District of Columbia as in this act mentioned, or by a duly authorized medical officer of the Government of the United States, or the District of Columbia.

4.—That no experiment calculated to give pain shall be performed on a horse, mule, ass, dog or cat, except upon such certificate being given as in this act mentioned; provided that license shall not be granted to any person under the age of 25 years, unless he is a graduate from a medical college, duly authorized to practice medicine in the District of Columbia.

5.—That any application for a license under this act must be signed by three physicians duly licensed to practice and actually engaged in practicing medicine in the District of Columbia.

6.—That there shall be no vivisection in public schools or for exhibition to the general public.

7.—That all registered places shall be from time to time visited, without previous notice, by special inspectors, who shall report to the President of the United States, which reports shall be made public by him.

Senator Gallinger, of New Hampshire, who is a physician, is in charge of the bill, and has been pushing it vigorously.

An analysis of the bill shows peculiar thoughts, good and bad provisions confusedly put together by well-meaning but over-zealous humanitarians, aided by a certain element of the medical profession "actually engaged in practicing medicine."

It hits far above the mark, because its provisions ignominiously limit and obstruct, and with espionage thrown in, actually prohibit animal experimentation. It is a monstrosity because it classifies inoculation—and for that matter any injection—as a form of cruelty to animals.

We know of the existence of abuses in animal-experimentation in America, and the abolishment of vivisection in the public schools, with its deplorable moral result upon tender children, would find the hearty approval of the veterinary profession. A majority of us would even go so far as to allow restriction of vivisection in the many mediocre private schools and colleges and universities, where unripe professors are allowed to cruelly play with helpless domestic animals before a class of still more unripe pupils. But we must retain some places where the pressing problems of the day in biology and pathology can be solved by animal experimentation, and the proper places for such privileges are our renowned universities.

As far as pure veterinary science is concerned there is no institution in the United States where more extensive and valuable investigations in animal-diseases have been made, than at the Bureau of Animal Industry in Washington, D. C. The bill is a direct blow to this institution—charged by law with the duty of such investigations—and indirectly an assault upon American veterinary science, while the guardianship, under this act, of the "three physicians duly licensed to practice and actually engaged in practicing medicine" is an uncultured pretence and exhibition of hatred by some doctors having more gall than intellect.

We admire the work done by our humane societies,—of which the writer is an actual member,—and we wish to see injudicious vivisection on our domestic animals abolished, but we regard this bill as a failure from its limitless and wild provisions, dictated by a wing of ultra-fanatic antivivisectionists. If this is an example of future legislation in this line, the veterinary profession of America had better awake to the seriousness of this new difficulty confronting us, and take up this matter at our coming meetings. The veterinarian, to be above reproach, must be a humanitarian. As a rule he is a lover of animals, and by instinct and education understands better their wants and needs than those who deal with them only in theory. He does not believe in mere pity and mercy in dealing with our domestic animals, but he acknowledges that they have certain rights, some of which he is daily enforcing in the exercise of his profession. One of these rights, which our domestic animals may justly claim from our hands, is the earnest and intelligent study of the ailments which nature has inflicted upon them, and civilization aggravated. This cannot be done at our present state of scientific knowledge without subjecting a few of them to certain tests for the benefit of the millions that are living and the untold numbers that are to come. Such tests, such investigations, we must look upon as our duty towards our profession, towards our domestic animals, and towards God, who has naturally charged us with their care and protection against ignorance and intolerance from whatever source it may come.

It is hardly to be expected that such a bill will be passed by an intelligent body of men. But, whatever may be its fate, it is certain to have an important bearing upon our future professional development. We must study more closely the claims of those who think it their privilege to infringe upon the rights of work and study of their fellow men, we must approve of just claims and show the fallacy of unjust fears, and all this in an intelligent and conservative manner, and commensurate with the dignity of our science.

O. S.

TUBERCULOSIS, ACQUIRED AND HEREDITARY.—The contention of the modern school of veterinarians that tuberculosis of cattle is more frequently acquired than inherited, was strikingly exemplified in a series of interesting experiments recently held at the Iowa Experiment Station, where a number of calves born of phthisical mothers and fed exclusively upon milk from healthy cows remained free from the disease, while the offspring of healthy mothers fed exclusively upon milk of consumptive animals contracted the disease. If these experiments can be repeated, and verified beyond the possibility of contradiction, and the results placed before the country, it will prove a more powerful argument in securing legislation favoring dairy inspection than innumerable volumes of theoretical writings. It will demonstrate beyond doubt the dangers from the milk of tuberculous cows, and point the way toward the control, the reduction, and the extinction of the disease.

A VALUABLE CONTRIBUTION.—We are delighted to call the attention of our readers to the excellent article upon "Tumors of the Sinuses and Maxillary Bone," by the distinguished and talented Professor Cadiot, of the Alfort School. This contribution is but the first of a series of brilliant papers which this illustrious Frenchman will write specially for the REVIEW, and we congratulate our readers upon the acquisition of his wonderful genius. The editors of this journal will soon be in a position to announce original communications from other men of world-wide reputations, both at home and abroad.

PROGRESS OF VETERINARY EDUCATION.—The friends and promoters of a higher standard of veterinary education can now congratulate themselves upon the perfect fruition of their ambition and struggles to advance this important idea. Those schools which voluntarily led the way, somewhat perilous to their integral interests, being private enterprises and drawing sustenance through sharp competition, have every reason to feel proud that their diagnosis of the public pulse, their devotion to the cause, their willing sacrifice, have been rewarded by bringing into line every school of any magnitude, except one, upon the American continent, and it is only a matter of a little while before that school must conform to the new standard or close its doors. With its graduates debarred from recognition in the U. S. V. M. A.; with an examination before the Regents denied her future graduates in the most prosperous States of the Union, there can be but little inducement for young men to seek her diploma.

In our last issue, we were pleased to enroll upon the list of three-year schools, the Chicago Veterinary College, which was extremely gratifying to her friends and alumni throughout the country. This month we take equal pleasure in announcing that the National Veterinary College at Washington, whose origin as a short-term school was always a mystery, and which was intended by the character of its promoters and surroundings to be one of the higher class, has made the declaration of a determination to inaugurate a three-term course; while the Detroit School is seeking a light to guide the way to the same result.

One thing is settled. If a school in this country in the present day cannot exist as a long-course school, it must close its doors as a short-course school.

WHAT MEANS THIS LETHARGY ?—When Buffalo was chosen as the location for the annual meeting-place of the United States Veterinary Medical Association for 1896 we congratulated the members and the profession generally upon the wisdom of the selection, and at once became enthusiastic at the prospect of witnessing within the borders of the Empire State the grandest gathering of veterinarians and the most successful meeting from every standpoint that had ever been held under the auspices of the National Association. Every element that could conspire to enthuse interest and attendance seemed to be present. There can be no reason why that opinion should be altered now, and possibly we are becoming alarmed without sufficient cause; but it does appear to us from general observation that there is a degree of indifference and lassitude with reference to the important event that is only two short months away that does not promise well. In former years the journals at this stage were teeming with information relative to details of the great annual conclave —the papers to be read, the arrangements for traveling, the local rendezvous, and many minor details; all was expectancy and interest. That none of these announcements are obtainable for the meeting of 1896 is the cause of our concern. The REVIEW promised to keep its readers posted as the arrangements were consummated, and has tried hard to keep faith with its obligations. The following extract from a letter received from the worthy Secretary, Dr. Stewart, just before we go to press, will show in a measure why our efforts have been crowned with such little success: " . . . I much regret the lethargy of interest in association matters—financial, literary, and social. Scores of letters sent to members do not elicit a response of any kind. . . . No word has been received from the committee of arrangements. I have just written the chairman requesting him to send to each of the veterinary journals at once such information as he might have concerning transportation concessions, hotels, places of meeting (hotels and hall), entertainments, etc., and hope you may receive such matter in time for the July issue." Beyond a list of papers to be read by Western veterinarians—which will be found elsewhere—there is absolutely no news available for our readers for this the last issue but one that will reach them in time to be of service before the meeting. And it is this state of affairs that has caused us some alarm for the success of what should be the greatest of all her meetings. With an earnestness born of deep concern we beseech those who have the conduct of the meeting in hand to awaken to the necessities of the occasion, and we ask all those who expect to contribute to the literary programme to at once announce themselves, so that arrangements may be completed.

NEW YORK STATE LEGISLATION.—The legislative committees of the State and county societies have been kept unusually busy during the late session of the solons at Albany, combatting mischievous bills introduced by members in the interests of private individuals, and bearing with them far-reaching injury to the profession at large. They have been so numerous, and so disguised, that it has been difficult for one to keep abreast of them. We have, therefore, much pleasure in directing attention to a communication in this month's REVIEW from that authority upon veterinary legislation in New York State, Dr. Arthur O'Shea, chairman of that committee of the

County Society, and member of a like committee of the State Association. It is a plain statement of the situation as it now stands, and the profession at large owe much to Dr. O'Shea and his colleagues for the very great amount of hard work which they have performed for the good of all. Their efforts will be greatly assisted if the suggestion to employ counsel permanently located at Albany to guard veterinary interests is favorably acted upon.

ORIGINAL ARTICLES.

[Written specially for the American Veterinary Review.]

THE TUMORS OF THE SINUSES AND OF THE SUPERIOR MAXILLARY BONE.

By Prof. P. J. Cadiot, Alfort, France.

Lately, we have seen at our clinics a patient suffering with a tumor of the bones of the face, with which I declined to interfere. I wish to explain the motives of my abstention and for a few moments say some words on the subject of the neoplasms of the sinuses, of which we will find but a very incomplete study in our classical works.

Though less frequent than catarrhal inflammation of the mucous membrane, neoplasms of the sinuses are not rare. I have personally collected a number of them, different as they were in the nature of their lesions and of their severity. In sinuses of horses have been found *cysts*, *myxomas*, *fibrous polypi*, *sarcomas*, *epitheliomas*. Let me mention to you a few clinical facts which will give you an idea of the symptomatology, progress, and seriousness of these tumors; and which will show you to what extent operating interference is justified.

Let us see the cysts first:

In 1891, a Percheron horse, seven years old, was brought to the clinic for a discharge from the left nostril of two months' standing. This discharge was thick, grumelous, offensive and dirtying to an extreme the left nostril. There was a small multilocular gland on the left side of the intermaxillary space, not adherent. The external plate of the sinus was slightly bulging, painful to pressure, and dull to percussion. We diagnosed a purulent collection of the sinuses. The animal was left for treatment. After trephining, we were surprised to find the mucous membrane of the inferior maxillary sinus thick and infiltrated. The finger, introduced in the cavity, discovered that it was covered with a large number of soft, spherical, somewhat confluent tumors. The mucous membrane of the frontal and superior maxillary sinus was thickened by the inflammatory process, but was free from the lesions found in the other sinus. The teeth were normal, the maxillary bone was not involved and the septum that separates the two maxillary sinuses was intact.

---

* Clinical Lecture of Mr. Mesnager, fourth year student.

Trephining over again in another spot, I then cut through one of the tumors with the bistoury and allowed the escape of a thick viscous fluid. The case was one of a cyst, developed in the mucous membrane, probably at the expense of some of its glands.

After washing the sinuses, I enlarged the opening of the inferior maxillary sinus, removed the mucous membrane entirely, cauterized the surface with the thermo-cautery, and then treated the horse as one affected with simple purulent collection of the sinuses; daily washing of the cavities with a slightly antiseptic solution, and afterwards astringent solutions. The drain tube was removed after a month, a tent of oakum introduced into the trephined part to prevent too rapid closing. The animal was submitted to light work, and two weeks later was entirely recovered.

Mucous cysts of the sinuses are rare. This is the only case I have seen in fifteen years' experience, and few others are recorded.

Not less rare are the *dental cysts*, of which Liautard gives the following interesting example: After an attack of influenza a sixteen-year old mare, discharges abundantly, has a small gland, and an abnormal bulging of the right side of the face. A veterinarian believes the animal has glanders. Liautard disagrees and diagnoses a simple collection of the sinuses. The teeth were normal; there was no lesion of the buccal mucous membrane. The inferior maxillary sinus is trephined, and three dental cysts are found, each containing a hard, movable body, of the consistency of enamel; a rudimentary tooth, similar to those met in the cysts of the temporal region. The extraction of the teeth and the ablation of the cysts were followed by a rapid recovery.

Though our records are poor in observations relating to cysts of the sinuses, it is certain that numerous practitioners have seen them, have employed the modes of treatment we have just mentioned and cured their patients.

This first group includes lesions which remain limited to the sinuses and are manifested only by the symptoms of the suppurative inflammation of these cavities, which at a later period comes to complicate the fact of their presence.

Myxomas and *fibrous polypi* form two other varieties of tumors of the sinuses which are not much more serious than the preceding, when they are recent and limited to one of these diverticulums only. Fibrous polypi, however, are in general more serious than myxomas.

Both start ordinarily from the ethmoid or the floor of the sinuses; they grow rapidly, press against the bony plates, principally the external, spread to the corresponding nasal cavity, and may assume there large dimensions; give rise to special symptoms, interfere with respiration, produce a *nasal roaring*, and even bring on death by asphyxia.

Trasbot has published a curious case of this nature. A mare, of Mecklenburg breed, had an intermittent running on the left side of six months' standing. This discharge is muco-purulent, striated with blood at times. A tumor of the sinuses is suspected. The running at the nose increases, the maxillary ganglions are swollen, the animal roars loudly when at work.

Another examination revealed nothing, neither in the nose nor in the mouth. The roaring becomes louder and louder, to stop only when the animal is at rest in the stable. Soon difficulties of deglutition appeared, salivation is very abundant. One morning the mare is found dead in her box. Post-mortem explained these singular phenomena. The tumor, starting on the ethmoid, was formed of two well-distinct parts, one filling partly the frontal sinus, without adhesions to the walls of this cavity ; the other had grown along the superior turbinated bone in the nasal cavity and had developed considerably ; it had passed through the gutteral opening of the nasal cavities, through the pharynx, and at last reaching the larynx, had entered into it, obstructed it, and killed the animal. The histological study of this tumor showed that it was a myxoma.

With its narrow base of implantation on the ethmoid, its excision would certainly have been easy.

Labat, in 1888, and Moussu, in 1893, have each related a case of tumor of the sinuses with ablation, followed by success. Labat's patient was eight years old. The superior maxillary and frontal sinuses of the left side were the seat of a polypus growth which deformed the wall. A triangular piece of the external plate of the superior maxillary sinus, measuring 7x9 and 10 centimeters, was removed. The tumor, which was inserted on the floor of the sinus, was removed *in toto.* The wound of the bone diminished considerably, but never healed entirely.

The mare operated upon by Moussu was seven years old. The superior and inferior maxillary sinuses were filled with a tumor, which had thinned down and perforated the external plate of the bone. The internal plate of the superior maxillary sinus, as well as fractions of the nasal, lachrymal, and zygomatic were destroyed. The skin dissected around the tumor, an opening 15 by 12 centimeters was made through the bones of the face, the tumor removed in two sections, and it became necessary to extirpate a part of the internal wall of the sinuses and of the upper turbinated bone, thus leaving exposed the roots of the three last superior molars. In two months these were all covered, the wounds granulated well, and the animal returned to its work. The tumor was a myxo-sarcoma. It did not return.

The facts that I have observed make me consider *sarcomas* of the mucous membrane of the sinuses as quite rare. And yet we meet them now and then. Some of you may remember a case brought to one of our clinics last year which I ordered destroyed on account of sarcoma of the superior maxillary and of the sinuses. When this patient came to us, he had on the left side of the face a hard tumor, diffused, almost painless and without complications of the lymphatic glands. He had a muco-purulent discharge of the left nostril. Examination of the mouth revealed a raising of the mucous membrane along both edges of the molar arches. The animal was worn out and killed for the butchery. The autopsy revealed that the sinuses of the left side were partly filled by the tumor.

There is another frequent and extremely serious form of tumors of the sinuses. I refer to *epitheliomas*.

Among the published observations, you may read with interest those of Trasbot, Barrier and Benoit. They are almost all alike. The history of a few patients that I have seen at our clinics will give you an exact idea of the characters and gravity of these tumors.

Towards the end of last year, a gelding, ten years old, was shown to us; he had been bought a few days before. He ate slowly, the cheek was tumefied and the owner thought his teeth were sharp and needed filing. The general state of the horse was fair, yet there was a certain amount of dullness and of apparent suffering. The attention was specially attracted by long threads of saliva flowing from his mouth, which, when carefully examined, revealed the nature of the affection, which was very different from that suspected by the owner. There was a large tumor in the buccal cavity, grown on the palatine arch, alongside the left molar arch. It was protruding slightly under the mucous membrane, which allowed us to define its anterior boundary, which extended as far as the second molar. Other peculiarities were also detected by opening the mouth with a speculum and throwing reflected light into it. The last left molar, partly covered by neoplastic granulations, on both sides, were loose. The projection formed by the tumor was principally well marked on the level of the molars. Upon the greatest part of the palatine arch, it was scarcely visible, and the mucous membrane seemed simply covered with a kind of granular membrane. Light thrown into the nasal cavity showed its floor deformed, bulging, with the mucous membrane pushed aside by the tumor. This had started on the mucous membrane of the mouth, or at the interior of the maxillary ; and in this last supposition had made its principal development in the mouth. Another important symptom was also noticed, which consisted in a double adenopathy, which left no doubt as to the nature of the disease. The maxillary ganglions on the right side formed a bosselated, very hard mass, as big as a nut, adherent to the deep tissues, but not to the skin. Those of the left side had the size of a pigeon's egg, also irregular and very hard. The diagnosis of *epithelioma of the maxillary* could not be doubted. The animal was incurable. The owner sold him and we lost sight of him.

Here is another similar case, observed in January, 1891. A twelve-year-old gelding, was presented at the clinic with the following history : Three months ago, it was observed that his face was slightly swollen, mastication had become difficult, and he had an offensive odor discharging from the right side. On the right lateral side of the face the swelling was diffused, quite hard to pressure, a little painful, extending from the anterior extremity of the maxillary spine upwards, down to on a level with the first molar. The maxillary glands of the same side were affected. They formed a very hard tumor, bosselated, elongated in the direction of the axis of the head, movable under the skin and but little adherent to the tissues under. From the right side flowed a greyish, fœtid discharge. In the nasal cavity, by spreading the nostrils open, a greyish tumor was seen, filling it interiorly, projecting between the turbinated and coming downwards. Examination of the mouth showed, on the palatine arch, alongside the right molar arch, a reddish granulating surface, which, towards the middle of the cavity, occupied nearly half of the palatine arch. The gingivo-labial fissure was partially filled with granulations and putrified food. A reflector placed between the dental arch and the cheek revealed that the teeth were loose in their destroyed alveolar cavities. You see how extensive the lesions were and yet the swelling of the face was relatively small. A diagnosis of *incurable tumor of the maxillary* was made. The microscopical examination of a portion of the neoplasm, taken from the palatine arch, near the second molar, confirmed the diagnosis. It was a tubulated *epithelioma*. The animal was sold for the butcher, and we obtained his head to examine its condition. The tumor had destroyed almost the entire structure of the superior great maxillary, the anterior part of the palatine and a portion of the turbinated. It filled the middle and a portion of the superior third of the nasal cavities as well as both maxillary sinuses. The third and fourth molars were completely loose, the second, fifth and sixth were scarcely attached in their alveola. The glandular lesions were very characteristic; their characters under the knife were those of the tumor.

Let us now consider the case before us.

Upon a gelding, Anglo-Norman, twelve years old, some six months ago, there appeared on the left superior maxillary a swelling, which gradually became more marked. A veterinarian called to see it, considered it a traumatic lesion and prescribed some treatment, which gave no result. The swelling kept on growing, mastication became difficult, from the left nostril and from the mouth came a very fœtid odor. The animal was brought here. What called the attention at first was the asymmetry of the face. The muscles of the face were atrophied; the mass of the masseter, originally somewhat prominent, was entirely gone, the cheek appeared excavated. On a level with the superior maxillary, between the zygomatic process and the suborbital foramen, there was a tumor well defined, as big as a fist, evenly hard, except in the centre, where the skin was ulcerated and where was seen protruding a large fleshy granulation. The skin was adherent to the tissues underneath. No œdema all around. The exploration of the diseased region was painful and the animal resisted it. From the left nostrils ran a clotted, fœtid liquid, increasing by exercise. The glands of the maxillary space were hypertrophied, slightly indurated, painful, movable on the deep tissues and not adherent to the skin. A fœtid odor came out of the mouth. When this cavity was opened, on the left side the gingival mucous membrane was destroyed, covered with granulations, swollen alongside both alveolar borders. The second, third and fifth molars were loose and implanted in soft tissue. On each side of the dental arch there were two fissures, gutters like, where putrified food accumulated. The fourth molar had dropped from the mouth and was replaced by a fungus granulation. The animal was thrown and chloroformed for more minute examination. By trephining in three places over the face, on the centre of the tumor, a large opening was made, which exposed the destruction of the greatest part of the maxillary bone and the roots of the molars, whose alveoli had lost their bony walls. The second and fourth molars were removed with the hands.

The diagnosis was simple. It was a tumor which had destroyed most of the superior maxillary bone, filled the sinuses and perforated the palatine arch. Microscopical examination showed that it was an *epithelioma*. The animal was destroyed.

The post-mortem showed that no secondary tumor existed in the viscera. The superior maxillary was not entirely destroyed. The first molar was the only one that remained attached. A slight traction on the fifth and sixth permitted of their removal. The neoplasm projected but little on the palatine arch, yet was destroyed in most of its left half, from its posterior border to the first molar.

You will observe that these three cases are very similar. The differences between them is only as to the extent and seat of the lesions. They all are due to a tumor of a similar nature, a like origin, an epithelioma which has started in the thickness of the maxillary. It is true that all epitheliomas of the face and mouth do not start at the same point. It is probable that some begin on the buccal membrane or that of the sinuses; those of the latter are less frequent in horses. Those which are most observed in these regions have the maxillary bone for starting point and are no doubt developed at the expense of the epithelial centres loose in the bones, and rising from the dental structures. At a given time, under the influence of causes, still unknown, the cells which constitute these centres proliferate abnormally and make in the bone a cavity, which gradually opens either in the mouth, in the sinuses, most commonly in both, the diseased process invades the bone, destroys the walls of those cavities as well as the dental alveola. The tumors are called *terebrating epithelioma* of the *maxillary.* Even in the cases where the disease is observed early, at the moment where the buccal mucous membrane ulcerates, for instance, already the maxillary has undergone an extensive destruction through its structure and alveolar borders, and yet but little deformity of the face exists.

Be careful of not basing your prognosis of the tumors of the region of the face from the size of the swelling or the bulging of the bony plate. While these epitheliomas of the maxillary, scarcely visible, are of the most severe nature, benignant growths, covered by the mucous membrane of the sinuses may push against the external table of these cavities, thin it out, raise it and perforate it, right through the skin, and yet these last benignant tumors may be successfully operated upon. The animal is anæsthetized, the sinuses freely opened—most ordinarily both maxillary—and at one or several seatings, the neoplasm is removed, the hæmorrhage being controlled by plugging or with the cautery. With malignant tumors, such operations are not to be performed in our surgery.

I will now resume the practical indications of my remarks:

Tumors developed on the mucous membrane of the sinuses *and which as alterations upon the bones have only raised them or steadily pressed upon them for some time, are curable; they must be extirpated, if the patient is worth it.*

When it is an invading neoplasm, which has partially destroyed the walls of the sinuses or reached the dental alveoli, without, however, reaction upon the lymphatic glands, most always it is a case of osteosarcoma; leave it alone.

When one is in the presence of a tumor with ganglionar metastasis, it is a malignant epithelial tumor that often cannot be operated upon, and which always residivates, if ablation is attempted.

To conclude, it is proper, to preserve for animals as well as for men the denomination of *malignants* to those tumors which have a rapid growth, invade surrounding tissues, bones and soft tissues, to those especially which extend to the lymphatics and those which assume the aspect of infectious processes.

CONTAGIOUS DISEASES IN KANSAS.

By Dr. Geo. C. Pritchard, Topeka, Kas.

A Paper read at June meeting of the Missouri Valley Veterinary Association, held at Leavenworth, Kas.

Mr. President and Gentlemen:—The subject I have briefly outlined in this paper, is, I think, of vast importance to the general public; and should be agitated until the people have become sufficiently educated, with reference to the nature and spread of contagious and infectious diseases of domesticated animals, to fully realize the great importance of placing strict regulations around those engaged in handling the same.

We have already ample protection (if the law is properly enforced) with reference to Texas fever. But when we consider the great ravages of hog cholera and swine plague, bovine tuberculosis, glanders, farcy, chicken cholera, equine and canine distemper, and so on through the whole list of contagious and infectious diseases of animals from which the country is seldom if ever free, one marvels at the ignorance and the indifference of the people in preventing the spread of these diseases.

I have watched intelligent and prosperous farmers in outbreaks of equine distemper, for instance, employing a veterinarian in whom they had the utmost confidence, and that veterinarian would explain the great necessity of isolating the sick from the well, and placing the sick under the best sanitary surroundings, all of which would be listened to with profound respect and apparent interest; but upon the next visit the same conditions would prevail, with perhaps the difference in favor of the unhygienic. But all of you are more or less familiar with these conditions, and it is needless for me to take up our valuable time respecting them here. I wish in particular to speak of hog cholera and swine plague, because I am satisfied that the State of Kansas has lost more money through the different forms of hog cholera than from all the other contagious and infectious diseases of animals combined; and yet, how vastly different are the laws of Kansas, in dealing with the infection of hog cholera, when compared with those of Texas fever. For instance, with a small outbreak of Texas fever, in any community in the State, the greatest excitement will prevail; all the farmers in a radius of ten miles will come flocking in to make an investigation (which by the way is all right they should). The investigation will probably develop the fact, that the infection was brought in by some innocent party, who had purchased the cattle from some parties living outside the State. Perhaps the fever is in a mild form and there is not the least danger of its spreading; no matter, every farmer in that community would have that man's property confiscated; they want not only the cattle placed in quarantine, but the most of them want a job taking care of them; they would have, if possible, a man to every head of cattle to guard them, and no matter what the costs are, the poor owner has no sympathy.

I have in my mind an object lesson: two years ago the Gillespie Commission Co., of the Kansas City stock yards, purchased 120 head of cattle from a bunch shipped in from California, and as California at that time was generally supposed to be free from the infection of Texas fever, no precautions were taken whatever against the infection, and in a short time an outbreak of Texas fever occurred, and I, as State veterinarian, was wired to come immediately and make an investigation. The cattle were in Russell County, Kansas, and the sheriff had a large body of men to guard them, although the cattle were in a pasture fenced in with a wire fence, and one man would have been ample security to that community that the disease would be kept confined to the pasture they were in. There was perhaps five or six dead cattle, possibly four or five that showed signs of the fever. I placed the cattle under temporary quarantine and notified the Live Stock Commission, who, after a thorough investigation, sustained the quarantine, and prescribed such regulations as was usual at that time, and at the same time tried to satisfy the community that the infection would be kept confined entirely to the pasture they were in; and in fact there was not the least danger of its spreading under the regulations adopted by the board. However, the people were not satisfied, at least pretended they were not, and took the matter into their own hands, placed a large number of men to guard the cattle, built a corral in which the cattle were placed at night, bought hay with which to burn the dead cattle. I remember one itemized bill was hay, $5.00; hauling and burning cattle, $16.00, and so on; it was really remarkable the schemes those people devised to run up bills against those cattle. Now of course the bills had to be brought before the Live Stock Sanitary Commission and allowed, and assessed to the proper parties. This was done, but the board saw fit to cut down the bills some 200 per cent.; of course, this did not suit the people in Russell County; the owners of the cattle were going to get away with two or three cattle left, after paying the bills at the figures the board had allowed, and this would never do. The sheriff of the county accepted the money, upon the basis allowed by the board, but when he returned to Russell County the people would not allow the cattle to be moved unless the full amount of the bills was paid; they ignored the Live Stock Sanitary Commission's orders to turn the cattle over to the owners, and the County

Attorney ordered the sheriff to continue the quarantine until the full amount of the bills was paid. In the meantime the daily increase of the bills was fast eating up the small bunch of cattle, and Messrs. Gillespie, to save anything out of their misfortunes, were obliged to pay the full amount of these exorbitant bills, which was something like six or seven hundred dollars.

Now, all this trouble and expense was made over a mild outbreak of Texas fever, when the mortality scarcely reached 10 per cent., and when the infection was confined to a comparatively small enclosed pasture. I only cite these cases to show the intense interest the people take in an outbreak of Texas fever, and how much feeling there is against the party bringing into the State the infection. But what will the same people do in an outbreak of hog cholera ? Let us see. In nearly the same locality of the State, I was called two years ago to make an investigation in an outbreak of hog cholera ; I found the cholera was in an aggravated form in a small herd of perhaps fifty or sixty hogs and pigs. The mortality reached nearly 90 per cent. Upon inquiry I learned that one of his neighbors had a short time before shipped into the neighborhood a car-load of hogs from the Kansas City stock yards. Of course the man that shipped in the hogs soon had the cholera and in a few days spread all over the neighborhood. Now there is nothing remarkable in this case, it's a daily occurrence in Kansas (at least has been) ; the point I wish to make is that not *one* of those farmers in that community had one word to say against the man that had brought in the infection ; all seemed to think the cholera was something that could not be avoided, and accepted the situation as best they could.

A good many of the farmers are getting cunning of late ; upon the first symptom of cholera their hogs are loaded into a car and shipped to market, and nothing said about it. There seems to be so many ways by which the infection of hog cholera can be conveyed, that it would appear at first thought to be almost beyond control ; but once the people are educated up to a thorough understanding, as to the infection, the many ways by which it is conveyed from one place to another,—a long step will have been taken towards its control; and right here I wish to state that the Missouri Valley Veterinary Association has been instrumental in making one very important change in the laws of Kansas with respect to the control of hog cholera. No doubt some, if not all of you, will remember at the meeting of this Association at Topeka two years ago, a resolution was adopted and presented to the Live Stock Sanitary Commission and the Legislature, asking them to pass a law prohibiting entirely the shipment of hogs from any public stock yards into the State of Kansas. As a result of that resolution, the Legislature repealed section 22, special session laws of 1884, which did not include hog cholera under the head of contagious diseases, and by the repeal of said section the control of hog cholera was brought under the jurisdiction of the Live Stock Sanitary Commission, and that board a short time ago asked me to draft a rule to be included in their rules and regulations for 1896, which declared a quarantine against the shipment of hogs from any public stock yards into the State of Kansas. This rule was adopted by the board some time in May, and is in force at the present time. That one resolution of the Association will do the State of Kansas more good, and save the State more money than any one act ever passed by the Legislature of the State of Kansas. And, gentlemen, I feel that had we not passed that resolution and presented the matter in its true light at that time that nothing would have been done by the Legislature. Therefore, we as an Association are entitled to no small amount of credit for this step taken in the right direction toward the control of hog cholera. This also shows us how immensely important our influence can be for the public good, and should stimulate us to study these live sanitary issues, and devise means to bring them before the public; this I consider a part of our duty as veterinarians. For who are so well qualified to do this as we? Now that this disease is placed under the control of the Live Stock Sanitary Commission, with good live men to compose that board, men that are up to date in all sanitary measures, and with force enough to see that the law is complied with in every particular, I am fully satisfied that from 50 to 75 per cent. of the outbreaks of hog cholera can be prevented ; and if this is a fact—which can be fully demonstrated with a trial—it will not only save the State millions of dollars, but will place the industry of raising swine upon a comparatively safe basis, thereby stimulating that enterprise to a marked degree.

Railroads should be compelled to thoroughly disinfect all cars before swine are received for shipment (excepting those shipped for immediate slaughter), also all their shipping pens; and right here I wish to say it is one prolific source of hog cholera. For instance, some one within the interior of the State, goes to another point within the State, to buy a car-load of hogs, and of course loads them at the nearest shipping point; perhaps a car-load of diseased hogs has been recently shipped from those very yards, and thus he brings his hogs directly in contact with cholera infection, and if the profits on that car-load of hogs would buy him a blue jean shirt in the fall, it would be a very strange circumstance indeed. Of course, he will say, "it's just my luck," but, gentlemen, luck has nothing to do with it; it's only a blundering way of doing business, which hundreds are doing daily in the State of Kansas. But the party shipping the hogs is not the only one to suffer, his neighbors' interests are jeopardized, perhaps a whole community will be compelled to see the profits of a whole year's hard labor swept away as a result of this loose, indifferent way of transporting swine over the State.

Now, I believe in educating the people, as I said in the beginning of my paper ; but, there is now and then a man who don't like to have too many new ideas thrust at him at once ; he had rather do as his father did forty years ago ; he don't believe in the germ theory very much anyway ; and, by the way, these fellows generally lay it all to their *luck*, when they have a misfortune of any kind ; now, to stop to educate a man of this kind, life is too short, there is too much to do, and the quickest and best way to educate these fellows is to pass laws governing the transportation of swine throughout the State; and then see that the law is enforced. The public's interests demands this, gentlemen, and we must be the agitators.

There is one other contagious disease that is a great menace to the live stock interests of the State, that the people are very indifferent about, namely, bovine tuberculosis; but, as our co-laborer, Dr. McCurdy, has a paper upon that subject, it is needless for me to say anything with reference to that disease. The other contagious and infectious diseases mentioned in the beginning of my paper, of course should receive a good deal of attention at the hands of the sanitary officers; but their importance is so insignificant, when compared with the two mentioned, namely, hog cholera and bovine tuberculosis, that I hardly think it worth while to give them any extended notice in this already long paper.

Thanking you all for your kind attention, and with a wish that we may all live to see the day that the contagious diseases of domesticated animals will be under the complete control of our sanitary officers, I will close.

THE following-named Western members will have papers for the coming meeting at Buffalo, and several others have said yes with a proviso: S. B. Nelson, Washington, "Nail Wounds of the Foot"; T. A. Peters, Nebraska, "Serum-therapy in Hog Cholera"; N. S. Mayo, Kansas, "Some Poisonous Stock Foods"; A. E. E. Grange, Michigan; M. H. Reynolds, Minnesota, "Cathartics"; L. A. Merillat, Illinois, "Veterinary Dental Surgery"; F. Braginton, Indiana, "DairyInspection"; D. S. White, Ohio.

The U. S. V. M. A. at the Des Moines meeting passed a resolution by an unanimous and hearty vote to the effect that reports and papers read at future meetings should not exceed 30 minutes, unless special consent be given by the members present. There seemed to be a general feeling in favor of short, concise, and practical papers rather than exhaustive historical dissertations.

[WRITTEN SPECIALLY FOR THE AMERICAN VETERINARY REVIEW.]

DAIRY BACTERIA.

BY A. S. HEATH, M.D.V.S., BROOKLYN, N. Y.

Not only are there a larger number of bacteria in May and June, but they also differ in number in different cows. Professor Conn tested the milk of eight cows in one stable several times: In two of the cows the milk contained per loopful (a loopful is a drop about the size of the head of a large pin) 250 bacteria per loop, while the milk from a third contained 20,000, and a fourth 60,000 in the same quantity of milk. There are no bacteria in the milk-glands, but there is some external favoring condition in the milk ducts and individuality of each cow to produce bacteria. This being the case, it may be found that breed of cow may also exert a favoring influence in the production of bacteria, as the largest number of bovine bacteria in milk or cream gives the finest flavor and aroma to butter. The species of bacteria may be numerous.

Prof. Conn found about 70 species of dairy bacteria. Milk, then, may be said to have a bacterial flora. But these are so minute as to make it extremely difficult to define bacterial species. But those producing acid, or souring of cream, gave the flavor and aroma of the butter, while those causing alkaline cream were those causing decay, and bad flavor. Acid bacteria produce no spores or seed, and a temperature of 158 F. destroys them, while alkaline bacteria do produce spores which are not destroyed at a temperature of 158 F., and continue decay. This is a serious argument against sterilized or pasteurized milk for human food.

The inoculation of cream with acid and flavor and aroma-producing bacteria prevents the baneful effects of other species by doing their work quicker and better, thus shutting off the bad effects of alkaline or decay-producing bacteria.

"Bacteriologists have for some time known that different species of bacteria may thus have a repressing influence upon each other. *It has been determined, for instance, that the growth of the normal bacteria in milk prevents the growth there* *of the cholera bacillus, although the cholera bacillus will grow readily in milk that has been sterilized*" (Conn).

The generality of the flora of dairy bacteria are helpful, or harmless, while but few are baneful or disease-producing. It is therefore desirable to get milk fresh from healthy cows, at the earliest time possible, as no bovine or baneful bacteria come from healthy cows, fed on sound food and pure water in hygienic environment. Even clean, pure milk, should be kept at a low temperature, as bacteria do not grow under such conditions.

REPORTS OF CASES.

TUBERCULAR DISEASE IN THE HORSE.

By W. F. DERR, V. S., Wooster, Ohio.

On Dec. 6th, 1895, I was called to see a large brown horse, by a man that makes it his business to feed and prepare horses for the Eastern markets, for the reason that he was not doing well.

History.—"I bought him early in the fall, with a lot of other horses that had arrived from the West. He had a cough at the time of purchase, and was somewhat thin in flesh, with but little ambition about him ; but I thought that he was probably breeding some form of distemper. I treated him some for his cough, and general condition, from which treatment he seemed to improve some. I put him to some light work during the latter part of October, but he seemed to become fatigued on the least exertion, and at times would not be dry in the morning, after having performed an ordinary day's labor. His cough is more troublesome than it was, does not lie down to rest, his appetite is fastidious—at one time good, at another, indifferent, never quite lost, however ; his spirits, like his appetite, are one day good, the next day or two, depressed ; shifts around on his legs a good deal, and seems to have a tired feeling." Such was the history the owner gave me.

Examination revealed the following : Pulse 60, temperature 104, respirations 28, visible mucous membranes injected, slight discharge from the nose, enlargement of the submaxillary glands, right lung elicited nothing abnormal from percussion, and auscultation, half of the left lung solidified, eyes looked dull, with a slight conjunctivitis, coat had lost its lustre, bowels and urinary organs in a normal condition.

Treatment.—Applied mustard over the left side, and prescribed the following:—

℞. Fl. Ex. Nux Vomica, ʒ ii,
" " Digitalis,
" " Belladonna, āā ʒ iii,
Sp. Nitrous Ether, ℥ v.

Mix. Sig. One tablespoonful, every four hours, in a little water, with syringe.

On Dec. 8th, I found my patient somewhat better; appetite had improved; pulse stronger and 54; temperature 102¾°; respirations 26. I made an addition to the above treatment of 40 grains of quinia to be given with every other dose of the above prescription. Owner reported on the 9th that he was better, and improving. Continued the same treatment every six hours, with quinia night and morning.

On the 11th I had a telephone that the horse was worse; the weather had changed from warm to cold, with some rain. Being in a very comfortable stable, free from all drafts, with good ventilation, I laid the cause to the change of the weather. While the pulse and temperature had not made much of a change, the left lung had become more solidified, his respirations 32, not at all laborious, appetite had again become impaired. I prescribed eggs with his other diet, which he took readily, and gave the same treatment I had been giving before, so that in a few days he seemed better again. On the 16th he again had a relapse. Patient was weaker, with œdematous swelling of the chest, abdomen, and legs, and a very troublesome cough of a painful nature, with a pulse of 70, temperature 104½°, respirations 34. I again applied stimulants to both sides, also increased my stimulants internally, so that by the 22d he again was on the road to improvement. I saw him again on the 25th, when his pulse was 55, weak, with some irregularity; temperature 103¼°, respirations about 30, with complete loss of appetite; cough very distressing, casts up considerable mucous from nose and mouth in coughing. I again told the owner that my prognosis was unfavorable, as I was satisfied that should he even make a recovery it would be with part of the left lung useless. He again had a relapse on Jan. 2, which revealed some dullness of the right lung and bronchial breathing of the left lung, at the superior surface of the chest. I made but little change in the internal treatment, none external; his surroundings were as good as they could be made; told the owner that he might expect him to die most any time. On the 10th, a fœtid diarrhœa set in, which carried him off on the 12th, when I had a telephone to come and hold a post-mortem on the cadaver.

Autopsy was held about eight hours after death. On removing the whole of the left side, I found the body fairly well preserved, considering what he had suffered. There was but very little fluid in the chest; left lung broken down to about one-third, which was studded with millet-seed tubercles; diaphragm and pericardium were thickened and studded with the same; mediastinum, anterior and posterior, were in the same condition, with the exception of several large clusters, from very small to the size of a hazel nut; right lung covered with these. Small tubercles; pleura, covering the ribs were in the same condition, only not quite as thick as the diaphragm and pericardium; liver of a leaden hue, and friable; the alimentary tract was free, as well as the liver, from all tubercular deposits.

It seemed strange to me that I did not find the same tubercular deposits in the mesentery when there were such masses in the thoracic cavity. I am sorry I neglected having a microscopic examination made to determine whether there really existed the bacilli of tuberculosis. With an experience of 24 years, and with a great many post-mortems held on animals that had died from diseases of the respiratory organs, I have never seen a case like the above in the horse. I have given a history and autopsy of the case, for the simple reason that I find but very little literature on the subject of tuberculosis in the horse.

INSPISSATED BILE IN BILE DUCTS.

By Gerald E. Griffin, Vet. 5th Cavalry, Fort Sam Houston, Texas.

At 5 P. M., on November 1st, the Farrier Sergeant of Light Battery F, Third Artillery, reported a bay gelding, 15.3 hands high, fourteen years old, used as a wheel horse on a gun, as being sick. The animal was considered as one of the best in the battery, was never on sick report since his entry into the service (about eight years previous), and always fed and drank well, and had regular daily exercise, except on Sundays; the animal was observed standing in his stall, with head hanging down and looking very much dejected. On examination, temperature was found to be 104.4° F., pulse 65, respiration only slightly above normal; fæces normal in color, but dry; urine not observed, but evidence of recent passage in stall; ration of oats in feed box still untouched, and nibbling a few spears of hay in a listless manner; visible mucous membrances normal in color, secretions from salivary glands scant, eyes dull, coat looking well; on first seeing animal was resting on off hind toe; concluded animal was suffering from an attack of malarial fever, which was prevalent at the time among the horses in the garrison. Directed the sergeant to give him sulphate quinine, ʒ ii, and that he be given ten drops of tincture of aconite hourly for six hours. Visited patient following morning, temperature 102.2°, pulse 53, fæces normal, but dry; ate hay; directed that he be given a small bran mash, and that a bucket of water be constantly kept before him, the first bucketful to contain nitrate potash, ℥ i; ate sparingly of the mash and played with the water. Saw animal at 5 P. M., temperature 102.8°, pulse 50; eating hay, had drank considerable water, urine plentiful, and high colored; no fæces in rectum; directed that he be blanketed, furnished plenty of water, be fed bran mash and that he be again given sulphate quinine, ʒ ii. Next morning temperature 101°, pulse normal, respiration the same, fæces passed during night still dry, evidence of plenty of urine in stall. Same evening, temperature and pulse same as in morning, ate sparingly and drank but little; directed that quinine, ʒ ii, be again administered. Following morning, temperature normal, refused bran, but accepted half feed of oats. Same evening, animal doing well; directed that he be kept on sick report a few days, and then returned for duty. For the next four days was turned out in battery paddock for exercise, looked well, but was still slightly off feed, which was ascribed to quinine. On the second day after the animal returned to duty, was taken out with battery for inspection, and was not exercised very much; reported as being all right at "stables" at 5 P. M. of that date; the following day at 1.30 P. M. sergeant reported animal as being very sick and acting strangely. On visiting him, found him standing in a narrow stall with a very alarmed look in his eyes, sweating slightly, frothing at the mouth, and presenting a slight abrasion of tip of tongue. Animal very stiff and difficult to move.

On examining in light, found pupil very much dilated, pulse thready and jerky, temperature normal, fæces in rectum normal and soft, but dry, trembling considerably in front, flexors of fore limbs appeared to be weak, hind legs seemed to be moved with a little difficulty, but feet not dragged; on being led to the watering trough animal did not see it, but when head was pulled down tried to drink, but experienced considerable difficulty in swallowing, apparent spasm of pharynx; on the hands being suddenly brought together with a noise animal would start as if he were a recruit and had just heard the report of a gun. After a thorough examination found nothing on which to base a diagnosis, when visions of rabies began to assert themselves, but the history of the case did not lead in this direction; there being no diagnosis, there was consequently no treatment, but animal was turned loose in the paddock and developments awaited. On being turned loose patient wandered around for a short time aimlessly, and then took up the trot; at this gait he went to the farthest end of paddock, about 100 yards, turned around and bore down on a "trot out" gait directly toward a small group of spectators, who, thinking that discretion was the better part of valor, immediately hunted their holes. Animal stopped short, however, took up the walk and meandered around as before, except that now he continued to move in large circles, and invariably to the right, and this was continued for over one hour, when darkness coming on he was left to develop alone, while we worried ourselves over text-books that never give any assistance when you get out of the beaten and much traveled trail, studded with drenches, balls, sedatives, alteratives, tonics and stimulants. While we were admiring that work of art, the index to "Williams' Equine Pathology," we were startled by the news that our patient had broke through two strong fences and was spurning the dust of the parade ground on the gallop, while a number of artillerymen were trying to head him off. He was finally secured and placed in the riding hall, where he was locked up, but, fearing he might climb the fence, which he tried to do, he was tied with a stout rope and thus remained until the following morning. By this time the case was diagnosed all over the garrison as "rabies," "mad staggers," "inflammation of the brain," not forgetting "bots." On visiting patient, he looked as if he had aged rapidly during the night, pupil still dilated, pulse quick and thready, but weak, temperature 103.1°, mouth dry, mucous membranes blanched, trembling, flexors very weak and slight dragging of hind feet; animal very quiet. By this time, we were completely "up a tree" as to the disease; had animal placed in a loose box stall, and reported the matter to the regimental commander, who directed that he be shot if necessary. On consultation with the battery commander, we decided to watch the case for a few hours. On being placed in a box stall the animal placed his chin on the edge of the box and bore down so heavily that he lacerated the skin on the inferior portion of inferior maxillary; finally he lay or threw himself down on his left side, pressed his forehead against the side of the stall and endeavored to bore a hole through with his head; this he continued to do all day, with an occasional struggle to regain his feet; pulse became weaker and more frequent, respirations were but slightly disturbed, and temperature remained at 103.1°, until death occurred at 10 P. M. The post-mortem was held the following morning at 9:30. Body in good condition, but emitting a peculiarly disagreeable odor; stomach contained very little food, but this in a fluid state; small intestines contained considerable ingesta, as did also large intestines, all well digested; no appearance of inflammation; appearance of spinal cord and brain normal, as were also kidneys and bladder; all of the intestinal organs were normal, with the single exception of the liver, which presented the following conditions (not weighed but appeared to be about eleven to thirteen pounds): Glisson's capsule presented only very slight indications of inflammation; commencing at the ductus choledochus the hepatic ducts were filled with small round balls of a brownish-yellowish substance, resembling very much the excrementitious fæcal matter of a goat and of about the same size, except that they became smaller as progression was made in the direction of the origin of the ducts, until they reached the size of a number one shot, and finally disappeared, to be replaced, however, by a sticky kind of biliary paste, having the characteristic color of bile. Neither the ductus choledochus nor the juncture of the pancreatic duct with same showed any inflammation or obstruction that could be observed, and the common entrance of both ducts into the intestine appeared to be perfectly normal. A detailed examination of the portal vein and hepatic artery could not be made, as we had made the usual error in dissecting the parts by using the knife indiscriminately. The organ as a whole appeared to be darker and more congested than is usual after death, but was still firm and healthy. It is thought that the animal died from the condition of the liver described, and the question arises, would a smart cholagogue cathartic have had any beneficial effect on the organ, if administered?

TWO CASES OF PERSISTENT HYMEN.

By George N. Kinnell, V. S., Pittsfield, Mass.

Case No. 1.—An aged roadster mare, of no particular breed, was stinted to a French coach horse, Prince D'Or. On attempting copulation the penis would not penetrate more than a few inches, when the mare would commence cringing more than they usually do, and the stallion, screaming, would rear up and dismount. Manual examination revealed a persistent hymen in the form of a strong fibrous cord. Dilatation of the vulva with the hands, and moderate traction on the cord, readily brought it into view, when it was seen to consist of white fibrous tissue, to be about two and a half inches long, and running transversely across the genital passage. At its central part it was rope-like, about as thick as a man's thumb, and very tough and hard. Towards each extremity it became flattened out antero-posteriorly, taking on the character of a thick, tough membrane, and was firmly attached to each side of the vagina.

Case No. 2.—A three-year-old cow at her first parturition; animal had been in labor for twelve hours, rectum protruding, vulva apparently much swollen, the enlargement having a pronounced cervical shape, two feet projecting a few inches from the orifice. Attendants had pulled repeatedly on the projecting members, but without any effect, other than to cause the patient distress. Exploration with the hand discovered the calf's nose and face wedged firmly against the roof of the vagina, while tight underneath its jaws was a hymen answering in all essential features to Case No. 1. In both cases dilatation and retraction of the labiæ of the vulva, with slight traction on the hymen, readily brought it within sight and reach. Section with an ordinary bistoury was all the treatment adopted or required.

In Case No. 2, the feet and head were returned to the womb before section was attempted, immediately after which the cow delivered herself of a live calf. Twenty minutes later, on giving the patient the usual parting glance, it was discovered that the cow had laid down, commenced straining, and had everted the entire body of the womb. The organ was quickly returned to its place, the vulva secured by three deep sutures, and the animal banked up in the ordinary way. She made a speedy and complete recovery.

VIVISECTION IN SWITZERLAND.—The citizens of Zurich, Switzerland, have rejected, by 39,476 votes to 17,297, a proposal submitted to them for the absolute prohibition of vivisection. On the other hand, a counter proposal of the Grand Council in favor of protection of animals, with due satisfaction to the demands of science, was adopted by a vote of 35,191 to 19,551.

SOME CLINICAL OBSERVATIONS.

We take special pleasure in reproducing *in extenso* a series of cases which Professor Peuch, of the Veterinary School of Lyon, published in the *Journal* of that school, as having occurred at his clinics. What a good example, and how well veterinarians that are connected with our American colleges would do if they would only follow it.—EDITOR.

LAMENESSES DUE TO TRAUMATISMS.—*Observation I.*—A heavy seven-year-old horse, pulling a heavy load, strained violently to start it. The effort was so violent that one of the chains of the right trace broke suddenly, and as a consequence the left shoulder was severely pressed upon by the collar suddenly displaced as the chain broke. An intense lameness followed, and the horse was carried to the Lyon school. As he arrived, he walked on three legs, the leg hanging as if the seat of fracture; the toe slightly touched the ground, the knee was half flexed. The shoulder near the joint, the arm and fore-arm of the lame leg, were tumefied, warm, painful, especially on the anterior part of the arm; there was no solution of continuity of the skin. No crepitation was detected by moving the leg in all directions. In the presence of these symptoms and the history, a diagnosis was made of *traumatic myositis*, with probable lesions of the branches of the brachial plexus, which go to the muscles of the shoulder and of the arm. The case was thought serious on account of the excessive lameness, the extent of the inflammatory swelling, the rapidity of its formation; though all danger of septic infection was absent. This diagnosis and prognosis was made before the students, with the statement that if the animal was left at rest for a long time the case would likely end in recovery. The animal, being of great value, was placed under treatment,—cold douches over the tumefied region. This, after two weeks, brought on the disappearance of the swelling. The animal was in good condition; but the lameness was as great as at the entrance into the hospital. There was besides a well-marked muscular atrophy opposite the subspinatus fossa of the scapula. The hydrotherapic treatment was replaced by electricity, faradization. At first the applications were well supported, and the atrophied muscles contracted slightly. But they, by degrees, became painful, and soon the animal struggled and fought so much that they had to be stopped. After a month electricity was taken up again, alternately with cold douches, massage, and walking exercise. Four months and a few days after, the lameness was scarcely perceptible in walking, but was yet marked in trotting. It is, however, hoped that it will soon disappear altogether, as the atrophy is gradually passing off. Indeed, after 137 days of laying up altogether, the animal resumed his work as good as ever.

Observation II.—A nine-year-old horse, used for double purposes, had a *deep punctured wound* of the left fore foot. He was very lame and was carried in an ambulance to the hospital at Lyon. One month ago, he became suddenly and severely lame on the left fore leg. The foot was examined, and a nail, implanted in the frog, was extracted. The animal was treated, improved, and was returned to his work. He soon became so lame that he had to be transported in an ambulance. In fact, the left fore leg did not assist in the carrying of the body, either in walking or at rest; it was the seat of lancinating pains. The diseased foot was unshod with a great deal of care; it was well pared down thin, and the following lesions were exposed: In the middle zone of the plantar face of the hoof and towards the anterior part of the lateral lacuna, there was a fistulous wound, with swollen edges, filled with yellowish, viscous pus, mixed with clots of synovia. Around the frog, the hoof was all loose as far as the internal glome of that organ. The foot was hot, the pulsations of the internal collateral artery of the cannon were strong and more readily felt on the left than on the right side. The history told the nature of the case; the severity of the lameness, lancinations, fistula on the middle zone of the plantar region, and specially the flow of *synovial pus* showed that it was a deep penetrating punctured wound, involving the whole thickness of the plantar aponeurosis to the small sesamoid synovial bursa. The absence of swelling at the coronet, and of the leg, induced the belief that the interosseous ligament, joining the navicular to the os pedis, was intact and that the inferior *cul-de-sac* of the synovial sac of the joint was not open. Notwithstanding the fact that the trouble was one month old, it was feared that the necrotic lesion, characterized by the plantar fistula, may have involved little by little the whole plantar aponeurosis, the interosseous ligament and the articulation. The classical operation was indicated to prevent all those accidents. However, as in some similar or at least much like cases, we have obtained full success with trochiscus of sublimate corrosive, we decided to try it first* before making the large removal and division required for the operation, and which always demands such long rest, or may be followed by deformities or permanent lameness, too commonly observed as a consequence of the cicatricial adhesions between the perforans tendon and the posterior face of the navicular bone. Therefore, the hoof of the sole, frog, the internal bar were thinned out, and then a pencil of sublimate was introduced into the fistula down to its bottom, following its course, which was slightly oblique. A tar dressing of oakum was laid over the sole, and held in place by a piece of leather placed under the shoe. The animal was put in slings. During the day following this cauterization by the sublimate, the lancinations were frequent, the pain great, but the next day, say 24 hours after the cauterization, a sensible improvement existed, and the following days, the pain diminished more and more, to such an extent that 12 days after its entrance to the hospital, the horse was no longer lame, walking or trotting. Two days after the shoe was taken off the fistula was entirely obliterated by a greyish scar, formed by the bichloride of mercury, under which the cicatrization was no doubt going on regularly, as the animal was no longer lame. He resumed his work a few days after.

Observation III.—This lameness was due to an *incomplete coxo-femoral luxation.* A four-and-a-half-year-old colt, while going out of the stable, slipped and fell heavily on the left side. When up again, he was found very lame on the left hind leg, and two days later was brought to Prof. Peuch,—presenting the following condition: In standing the left hind leg was off the plumb line, and scarcely rested on the ground with the toe of the foot. The stifle, as well as the external face of the thigh, presented a swelling, marked principally at the coxo-femoral joint. To make the horse walk, he had to be urged much, as the motions of the left hind leg seemed very painful. Locomotion was very difficult, the lame leg being scarcely raised from the ground, moved to a very limited extent; the various parts of the leg seemed immobilized; the animal hesitated to rest on his leg, which was supported by the entire plantar surface. The point of the left hock was a little higher than that of the right; progression of the animal did not take place in a straight line, but rather sideways; the body of the horse seemed to be curved to the right. By rectal examination, nothing abnormal was detected; no painful point in the pelvis. This examination showed that there was no complete fracture. But the soreness of the stifle and of the thigh, the swelling of these parts seemed to be the expression of an incomplete fracture of the femor, on account of the violent fall on the pavement. Still, the immobility of the lame leg, its shortening, made us think that the lesion was located in the coxo-femoral joint, perhaps an incomplete dislocation. However, the animal was placed in slings and continued cold irrigation applied on the swollen parts. This treatment was carried on for five days. After that time the swelling, which marked the hip joint, had disappeared, and this was exposed, deformed. There was a projection more marked than in the normal state; in front of it a depression, which did not exist on the opposite side. In placing the hand over the deformed part and moving the leg forward and backward, outward and inward, no crepitation was detected. The movements of the leg were very limited, always very painful, and it was absolutely impossible to raise the lame leg and carry it backwards in extension. Rectal exploration, made again, gave negative results. However, the deformation of the left hip joint, the abolishment or at least the diminution of the active mobility of the leg, the shortening of the same, all decided us to consider the case as one of hip luxation, which we believed incomplete on account of the small amount of shortening and the small extent of the articular deformity. An application of the charge of Lebas was put on, the animal kept in slings until he put weight on his left hind leg without hesitation. It took six weeks to reach that point. At that time the lameness was yet very great in walking—the only gait the animal could take. The muscles of the thigh were emaciated, the horse walked by small steps, sideway. About three months from the date of the injury, the animal had recuperated some of his movements. He could trot, but was quite lame. The lameness increased by exercise. The abduction was very limited. In standing the animal rested his toe principally on the ground and the leg had a rotatory position inwards. The horse was turned out. Seven months from the accident, he was no longer lame walking or trotting; the hip joint was very much deformed. He resumed his work, making 15, 20 and sometimes 30 or 35 kilometers a day in trotting. His hip remained in the same condition.

---

* The trochiscus is made as follows:—℞. Sublimate, 1 part; starch, 2 parts; mucilage, q. s. to make a paste, which is afterwards divided and rolled in conical or pencil forms.

[TO BE CONTINUED.]

EXTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

ACTION OF CHLORAL IN MILK FEVER [*By M. D. Pugh*].—Taking into consideration the fact that in milk fever the functional disturbances of the digestive organs are more complete than in any disease of this apparatus, and that preceding its appearance the changes of the uterine discharge take place, and that as a consequence of the decomposition of the food in the stomach a general intoxication takes place of the whole organism, the author claims that milk fever is produced by the absorption of putrefactive compounds, chiefly sulphur; that in the presence of these compounds chloral hydrate, expending its influence chiefly on the alimentary tract, prevents putrefaction by decomposing the sulphur compounds, and it is, therefore, indicated; and that sulphate of magnesia is contra-indicated because of its decomposition in the stomach and its emanating a fresh source of sulphur.—(*Veterinary Record.*)

AN OCCULT FOOT LAMENESS.—In the same journal, Mr. W. E. Litt presents the photograph of a horse's foot, illustrating a beautiful lesion of bony nature on the posterior part of the articulation of the second and third phalanx with the navicular bone. The animal had been lame for a long time with intermittence of comparative relief, which allowed him to perform much work and to win many races. After his death from ruptured aorta, an examination of his foot was made, which showed that there had been no fracture, no adherence of the tendon to the navicular bone, nor ulceration. But the under surface of that bone was much enlarged and roughened by a bony deposit which extended to the os pedis and causing a complete anchylosis at each extremity of the navicular. The interesting points of the case were the insidious early commencement of the disease, its development, and the entire absence of any external manifestion. When at work he was lame, generally dead lame in trotting, but walked and galloped sound.

A PECULIAR CASE OF RABIES.—Under this heading Mr. Wagstaffe reports to the *Veterinary Record* that he made a post-mortem examination of a dog which was killed as a suspect of rabies, a condition to which he certified from the examination he made and the lesions he found. The dog was reported to have bitten eight cows, but four or five of them were considered as suspicious and quarantined, and nothing occurred in them. Some *four and a half months later* a calf born from one of these cows died, after exhibiting symptoms suspicious of rabies, and *two months later* another calf, also born of one of the cows *six and a half months* before, died of rabies, as proved by inoculation of the brain and medulla. All the bitten cows are still in good health. The question is asked: is it not possible that the calves were bitten by another rabid dog, instead of inheriting the disease from the mothers, which, by the way, are yet well?

THE NEW PHOTOGRAPHY IN VETERINARY PRACTICE [*By Mr. F. Hobday*].—The application of Roentgen's rays to veterinary practice is not a thing which can be smiled at, and certainly will show its usefulness in large as well as in small animals. The author relates, in the *Journal of Comparative Pathology*, of Mr. J. McFadyean, three cases where the practical utility of the X rays is demonstrated. Case No. 1.—A Persian cat, pregnant, was examined to ascertain the number of fœtuses *in utero*. The result was not very satisfactory on account of the difficulty offered in bringing her under the influence of anæsthetics. Yet the negative obtained permitted of a clear inspection of the vertebral column and the pelvis, an indistinct shadowy mass, probably the intestines, and an outline of the uterus. Delivery of the kittens prevented a third attempt at anæsthesia. Case No. 2.—A cat which had sustained a fracture of the forearm, had remained lame, with shortening of the leg. Some six months after he was shown to the author, who made a diagnosis of no union of the fracture of the ulna, with a large swollen fibrous union at the lower end of the radius. Amputation was advised, but before being performed a photograph of the leg was taken by the X rays. The negative confirmed the diagnosis. Case No. 3.—A third cat suffering from lameness, and having distinctly perceptible a foreign body subcutaneously situated in the upper and anterior portion of the forearm. The photograph illustrated the very position of the foreign body, which was extracted, and proved to be a flat piece of metal with an exceedingly sharp point.

THREE UNCOMMON CASES are reported in the *Journal of Comparative Pathology* by Mr. J. Penberthy, under the headings: 1st. *Invagination of the Cæcum of a Horse.*—A bay gelding, five years old, which was affected with colicky pains, lasting some three weeks without relief, notwithstanding the opiate treatment he received, combined with drenches and enemas. The temperature had gradually increased from 102 to 106, the pulse raised from 56 to 94. At the post-mortem a complete intussusception of the cæcum into the commencing portion of the cæcum was found. The principal circumstances to notice were: the sudden attack, the continued evidence of dull abdominal pain, no violent symptoms after the first few hours, a swelling in the right flank, and, as determined by rectal examination, the existence of a somewhat hard, compressible, movable enlargement; the retention of the enemata, the facility with which the arm could be passed up the rectum, absence of tenesmus, continued high temperature, small quantity of food being taken, suppression of urine, and the duration of the illness. 2d. *Hematuria in a Mare, with Dilated Ureter.*—An old chestnut mare, general health good, somewhat debilitated, makes frequent attempts to urinate and passes coagulated blood *per vaginum* when in the position of micturating. On exploration through the urinary meatus, which easily admitted a small hand into the bladder, a large round sausage-like body is felt through the roof of the bladder. At post-mortem the bladder and urethra were found normal; the right kidney somewhat enlarged and conjested; its pelvis dilated and a small ulcerated spot in its lower portion; the right ureter was enormously distended. Rest, hæmostatics, and diaphoretics had been used without improvement. 3d. *Impaction and Rupture of the Colon, with Partial Twist of the Cæcum, in a Mare.*—An aged mare, which for nearly a month, showed some of the symptoms of impaction, characterized by more or less abdominal pains, retention of urine, various changes in the temperature and pulse, capricious appetite, constant decubital position, rare defecation, and eventually died. At the post-mortem were found: impaction of the colon, *ante-mortem* laceration at its fourth portion, peritoneum inflamed and covered with food material. The cæcum was mainly in the left hypochondriac region and sharply bent upon itself, with its front lying against the liver. The treatment had been according to indications, consisting of stimulant draughts, aloes, rectal injections, physostigmine in the jugular, and local treatment of the bedsores.

GERMAN REVIEW.

Translated by W. V. Bieser, D. V. S., New York City.

A Case of Congenital Tuberculosis.—A seven-months' pregnant cow, reacting characteristically to tuberculin injection, was slaughtered. Tubercles or tubercular changes were present in the lungs, pleura and small intestine, but the genitalia were free. The fœtus was likewise tuberculous, greyish tubercles being present on the surface of the liver, the lymphatic glands containing miliary tubercles in a state of cheesy degeneration, being conglomerated together in the hepatic omentum, both glands and tubercles containing Koch's tubercle bacilli. Now, Nocard had always taught that the fœtus could only become tubercular when the uterus of the mother was tubercular, *i. e.*, only through a maternal source. But this case seems to prove that the fœtus can become tuberculous without the uterus being tubercular, *i. e.*, from fœtal source *per se.* For he found the vaginal and uterine mucous membrane normal ; at least he could discover no tubercles nor bacilli, nor cheesy degeneration, nor suppurations upon the maternal side of the uterus. On the contrary, the only evidence of disease in the genitalia or their contents existed on the fœtal side, *i. e.*, in the placental cotyledons, seeming to prove that the fœtus can become tubercular *in utero*, without the uterus being tubercular. There were no round miliary tubercles in the cotyledons, but a yellow cheesy, diffuse infiltration containing Koch's tubercle bacilli. It is very easy for the blood in the capillaries of the placental villi, surrounded as they are or walled in as they were with tubercular areas, to receive the bacilli from the placenta and send them coursing through the umbilical vein to the liver and lymphatic glands of the fœtus. How the fœtal placenta is infected, the surrounding uterus being normal, is hard to say ; but one thing is certain, and that is that a fœtus can become tubercular in an apparently healthy uterus, making a marked exception to N.'s rule that a fœtus can only become tubercular through the agency of a tubercular uterus. Is the fœtus infected through the male spermatozoan, a thing hardly likely? What is the explanation ?—(*Oest. Monatschrift f. Thierhlk. und Revue.*)

TREATMENT OF HOOF CANCER.—A decided advance has been made in the treatment of hoof cancer lately, but only after patient and painstaking application of the most successful remedies. Nitrate of lead has during the last few years been used with encouraging results in Germany. Concurrently with others the author believes that the careful removal of all the undermined and pathological tissue is of the utmost importance ; this having been done and all redundant vegetations checked by the use of the cautery, the author employs lead nitrate. He selects a well-drained stall, well strewn with straw, appoints a man solely to water the animal and keep the stall clean ; then removing all redundant pathological tissue, he cleanses the exposed surface and dusts a thin layer of finely powdered nitrate of lead over it; he then applies an aseptic dressing and bandages everything so as to exert slight pressure, the pressure being the best method of keeping in check proliferating granulations. The bandages and dressings are removed every three days, and each moist and sprouting area as it manifests itself is dusted with lead nitrate. After five or six changes of dressings, the affected area presents a healthy uniform yellowish-brown aspect, and in three or four weeks the animal can resume work. Robertson's application of iodine solution in ether and the subsequent use of iodoform has not in the hands of the author given results comparable with the above. Another remedy much in vogue in Germany, but not used by the author, is thioform. As these cases of the author were of mild severity he does not wish his conclusions or deductions to be authoritively accepted.—(*Oest. Monatschrift f. Thierhlk. und Revue.*)

A STUDY OF THE PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS OF BARIUM CHLORIDE.—Upon the report of two cases of poisoning with $Ba\,Cl_2$, D. determined to experiment with the remedy and discovered:—1st. That in veterinary medicine, whatever its effects elsewhere, $Ba\,Cl_2$ given intravenously, subcutaneously, or per os, causes energetic peristalsis associated with profuse discharges. 2d. That in the ox and the sheep the effect is milder and less reliable. Taking advantage of these facts he resorted to the use of the drug in colic, and achieved results unattainable by either eserin or pilocarpine. To substantiate this the author tested the remedy at his clinic. Given *per os*, according to D., a medium-sized dose (10.0), either in pill or solution, gives evidence of their action in from 10 to 45 minutes; given intravenously or subcutaneously the effect is very rapid, rapid action being what we want in colic. The author limited the trial of the remedy to subcutaneous and intravenous injections, experimenting only upon sound horses. Intravenous injection is a simple and safe procedure provided a few simple rules are followed. The hair is shaved from the jugular region, the area disinfected, the jugular vein compressed in order to cause venous turgescence above the point of pressure, and a sterilized canula of a sterilized syringe (holding 5.0 to 10.0) is inserted slantwise into the vein. The drug is a clear white, salty crystalline substance, soluble in water; it is injected in watery solution of the strength of 10 per cent. The horses experimented upon were numbered, their soundness having been established beyond all question. Each horse was simultaneously injected and watched by a competent observer for a period of one and a half hours, a period long enough to allow all the effects of the drug to disappear. Three horses received 10 cm.^{3} each, two 7 cm.^{3} each, one 5 cm.^{3}, and one 15 cm.^{3} of the 10 per cent. solution. In all, after from 3 to 30 seconds, twitchings of the jaw, lasting from 15 to 30 minutes, set in, unaccompanied by salivation. During all this time, they were evidently all ill at ease, for they contracted their upper lips, turned and shook their heads vigorously. After from 10 to 150 seconds, the intestinal action of the drug ensued. The animals elevated their tails and passed more or less flatus. Then after from 1¼ to 3½ minutes they passed without any straining good formed fæces. But almost immediately they became restless, strained, pawed the ground uneasily, and looked back at their flanks. The horse that received 1.5 gm. began to moan and strain vigorously, the others in proportion, those with the smallest doses hardly moaning or straining at all, one of these in fact began to look for food after 4 minutes. Then the discharge of gas and fæces increased, so that during the first hour the animals defecated 5, 7, 12, 13, 14, 14, 26, respectively, the fæces at first formed, becoming pasty and then liquid in character. In none did salivation or sweating occur. One moaned piteously as above stated, one laid down prostrated. In some the borborygmi were increased, in others they were diminished. One had vesical tenesmus. While none showed a rise in temperature, all showed an increased frequency of the pulse, most of them showing an increase of 4 to 8 beats, only one an increase of 36 beats, the latter, however, being comparatively quiet. Hence was substantiated D.'s claim that $BaCl_2$ affected the heart. But this effect upon the heart was only temporary, inasmuch as the action of the drug lasted only from ¾ to 1½ hours, after which the circulation became normal again. It is the author's impression that $BaCl_2$ is more trustworthy and prompt in exciting peristalsis without materially or proportionately increasing the intestinal secretion than any other drug. These trial horses not being affected with colic allowed of the easy administration of the remedy. But in horses rolling about with colic, the proper administration of the intravenous injection may be impossible. Hence after the lapse of a week, six of these horses were experimented upon subcutaneously, a treatment that may be more feasible in colic. Two received 5 cm.^{3} each, two 10 cm.^{3} each, one 15 cm.^{3}, and one 20 cm.^{3}, of a 10 per cent. watery solution subcutaneously in the region of the scapula. On the average, after ½ to 1 minute, twitchings of the jaws set in, but not so prominently as in the first set of experiments. Then a period of disquiet, followed by severe colicky pains, set in. They reared and stamped, shook their heads, and contracted their upper lips. One rolled about the floor, one perspired profusely. The discharges were not so profuse as in the first set of experiments, only occurring 1, 2, 3, 3, 6, 6 times respectively during the observations. The pulse increased from 46 to 56. Respiration and temperature remained normal. Whether the continued rearings of the animals and their continuous colicky symptoms, which became most severe from 15 to 20 minutes after the injection, were really due to intestinal pains—the peristalsis was increased in most cases—is not quite certain. The fact is that the horses always stamped or moved most uneasily those limbs near the site of injection and that they tried either to protect or gnaw at the site of injection. Although neither swelling, pain nor heat was evident at the site of injection, still the site of injection seemed to be painful. The disquiet lasted 1½ hours upon the average, some only returning to their normal condition after 2 hours. No local sequelæ developed at the site of injection. Compared with the intravenous injections, the subcutaneous injections were very unsatisfactory. It is true, the catharsis ensued, but the general symptoms of disquiet, and especially the abdominal pains and apparent local tenderness at the site of injection, form such a congerie of symptoms as would give the laity the impression that one was increasing instead of diminishing the colic. It is true, that such a consideration should not enter in the treatment of disease, but if the same effect can be induced in a more satisfactory way, why not employ that way? The author, therefore, prefers intravenous injection, inasmuch as it is not more difficult than the other, is prompter, and causes less disagreeable concomitant disturbances than the subcutaneous injection does. With asepsis, no risk is run. Where the excitement of intestinal peristalsis for the purpose of emptying the bowel is required, as in the case of hard seybalæ of fæces, in colic or intestinal paresi associated with colic, where formerly eserin and pilocarpine were used, the cheaper remedy is Ba Cl_2 given intravenously. It has in the hands of the author shortened the period of colic, in varions cases. Where the pulse is rapid (70 to 80 to the minute), or where you fear obstruction, Ba Cl_2 is contraindicated, inasmuch as it does no good and increases the pain needlessly.

The dose intravenously is 0.5 gm. or 5 cm.^{3} of a ten per cent. solution.—(*Schweiz. Archiv. f. Thierhlk.*)

CONCERNING THE THERAPEUTIC EFFECTS OF DIFFERENT REMEDIES.—*Potassium Bromide.*—H. observed a favorable action of this remedy in 12 cases of epilepsy in oxen, swine, and goats. *Cocaine.*—A very valuable, fiery stud had a tear 7 c. m. long through the right ala nasi, and could not be approached. After soaking the wound with a 15 per cent. solution the animal allowed the rent to be sewn up. *Potassium Iodide.*—S. cured 3 cases of actinomycosis of the tongue with 8 g. of K. I. given daily for 12 days. K. with 6 to 12 g. of K. I. daily achieved cure in 9, and improvement in 3 cases of actinomycosis. E. likewise achieved the best results with the remedy. H. limits himself to the use of K. I. in this disease. Although K. I. does not cause absorption of some actinomycosis still he is in general satisfied with the remedy.—(*Berl. Thierarzt Woch.*)

A CASE OF MORPHINE IDIOSYNCRASY IN A COW.—Three days after an abortion in a cow, vaginal tenesmus set in with a discharge of a very fœtid, greyish-yellow secretion. Removal of the decomposing retained placenta afforded temporary relief for that night. Next day, however, tenesmus set in again, so severe that 1,0 morphine mur. was injected subcutaneously in the region of the neck. Twenty minutes after the injection—all tenesmus having ceased—very unusual symptoms of excitement set in, viz.: bellowings every minute, with occasional low growlings; alternate liftings and placings down upon the ground of the diagonal pairs of limbs; elevations of the upper lip with the emissions of puffs similar to those of a horse that had just undergone severe exertion; a nearly total cessation of milk secretion. Thereupon at 6 P. M. a 60,0 chloral hydrate was given per os with the result that total quiet ensued in the course of a few hours.—(*Schweiz. Archiv. f. Thierhlk.*)

FRENCH REVIEW.

SERIES OF ACCIDENTS DUE TO THE DEGLUTITION OF FOREIGN BODIES BY NEAT CATTLE [*By M. J. N. Ries*].—An old cow, more than 25 years of age, presented at post-mortem a sharp point, inserted in the right ventricular wall and concealed by numerous thick neomembranes around it. Its presence dates back for years. . . Another young cow presented also a sharp point in the cardiac muscle, which was swallowed 16 months before. . . A hairpin was found in the pericardium of another. . . Another was extracted from the walls of the reticulum, by incision of the flank and entrance through the rumen and made a partial recovery. . . Stimulated by this partial success, a similar operation was performed on another cow, and a piece of wire, held partly by the rumen and having entered the chest through the diaphragm, was extracted. Several complications followed and the cow died. . . Two fatal cases, where large abscesses were found at post-mortem between the pericardium and the diaphragm in one and on the diaphragm of the other. These were undoubtedly of traumatic origin. . . The sole of a shoe with large nails was found in the reticulum of a cow that died with paraplegia. . . In another cow at post-mortem a rupture of the reticulum with a diaphragmatic abscess containing two stones, one as large as an egg, the other as big as a nut. . . A long knitting-needle was lodged in the pericardium, which it had entered on the right side of the median line. . . A four-year-old cow was destroyed and showed a sharp point lodged in the diaphragm. . . A large hair-pin, with one point in the pericardium and the other in the reticulum was extracted by operation through the flank and rumen, the animal recovering. . . A lead spoon was found in the reticulum of another cow that had died. . . Four other cases of sewing needles were found at post-mortem in the heart and in the lung. . . Then another case where a piece of wire was extracted from the reticulum by opening of the rumen. . . From this series the author comes to the conclusion that gastrotomy is the only practical surgical operation likely to benefit individuals in which a positive diagnosis has been established.—(*Rec. de Med. Vet.*)

CHLORIDE OF BARIUM IN THE TREATMENT OF COLICS [*By M. Cadiot*].—After speaking of the successes which he has obtained in the treatment of colics with this compound, the author reads the reports that he has received from one of his *confrères* where serious fatal accidents followed its administration. While appreciating the value of the cases recorded by Dickerhoff, the conclusions of the author are rather unfavorable to the use of this compound.—(*Ibid.*)

THE HYPODERMIC INJECTIONS OF VERATRINE IN THE TREATMENT OF MAMMITIS [*By M. Detchevers*].—The author calls the attention of practitioners to the good effects of veratrine in the treatment of mammitis in cows. In seven or eight cases he has treated, the general fever which had reached 104° subsided in four hours, and the hard condition of the swelling of the udder diminished gradually, to subside entirely without leaving any alteration in the milk secretion after two or three days. He recommends the following solution: Veratrine, 40 centigrammes; alcohol, a few drops; distilled water, 10 grammes. The injection can be renewed if the fever returns.

ŒDEMA OF THE GLOTTIS AFTER PARTURITION [*By M. Perrussel*].—One night a cow calved without difficulty, and then suddenly began to roar. The noise took place at each expiration, and was heard at thirty feet from the animal. It was located in the glottis and was detected in the whole length of the trachea and in the chest. During feeding, the roaring increased; and seemed to subside when the animal laid down or walked. The treatment consisted in friction of ammoniacal liniment, double strength, purgation with 600 grammes of sulphate of magnesia, followed by daily administration of diuretics. The roaring diminished after 48 hours and disappeared on the fifth day.

DERMOID TUMORS OF THE CONJUNCTIVA IN A YOUNG CALF [*By M. A. Bru*].—A calf three days old presented a queer congenital abnormality of both eyes. A fleshy growth, covered with hairs, was resting upon each ocular globe and was protruding between the eyelids. On the left side, where it was more developed than the right, it formed an elongated band running in the line of the pupil. Attached at the inner angle of the eye by somewhat loose connective tissue, it was attached in its middle below the circumference of the cornea. It ended suddenly towards the temporal angle by a little projection continued to the sclerotic. It was covered with fine short hairs, near the sclerotic, but in its middle the hairs were long and thick like those of the skin of the young subject. On the right eye the tumor was smaller. It was rounded, also covered with hairs, and was implanted partly on the sclerotic, partly on the cornea. The growths were removed eight days apart and the patient recovered without complications towards the eye.—(*Rev. Veter.*)

TWO SPLEENS IN A DOG [*By M. Lanels*].—It is by exception that more than one spleen is found. This case presented two organs, of different size, but well formed. They were found in a dog that died from rabies. One was of the normal size, the other three times smaller. Both were well defined, and distinct from each other; both were attached to the sublumbar region with the great omentum. Both irregularly falciform, resembled each other by their form and their anatomical positions. The point, somewhat rounded, was twisted upwards; the base, thick and wide, looked downwards. The relations with the other visceræ were normal. Their structures were identical; their color, their peritoneal envelope, their capsule, splenic pulp, malpighian bodies, blood vessels and nerves, were alike. The subject presented no other abnormality.—(*Ibid.*)

ITALIAN REVIEW.

DIAGNOSIS OF GLANDERS MADE WITH MALLEIN CONFIRMED BY INOCULATION.—This case is recorded in the *Clinica Veterinaria*, and related to a horse ten years old, which had a discharge on the right side, with a very small gland of the maxillary space and some dyspnœa. At first appearance the case was considered as one of simple catarrh of the frontal sinuses, perhaps of a chronic nature, and the animal was submitted to a tonic treatment with nasal injections of astringent and antiseptic solutions. Some temporary improvement was at first observed, but not sufficiently marked to justify great hopes of recovery, and on account of the purulent aspect of the discharge the animal was submitted to the test of mallein. The average temperature had been some 37.8 C. (about 98 F.) for two days before testing. After the injection it rose to 40.4 to 41.1, and reached 41.2 (near 106 F.). The animal presented all the manifestations of local and general reaction. The diagnosis was decided,—the animal had glanders. For more certainty it was decided to inoculate a donkey. This was done on the septum of an old animal, which in a few days developed a well-marked case of acute glanders. At the post-mortem of the horse lesions of the nasal mucous membrane were discovered, which were not visible during life,—also pulmonary lesions of undeniable nature.

MALE INTERNAL PSEUDO-HERMAPHRODISM.—We read of this in the *Clinica Veterinaria*, which was that of a young ruminant which, while being deprived of testicular envelopes and inguinal canal, had all the characters of a male. At the post-mortem, there was found a uterus and vagina, well in proportion with the size of the animal, situated in the same position as in a female and having the same anatomical relations, but the vagina ended in a *cul-de-sac*, on a level with the neck of the bladder. An incision made upon this exhibited the orifice of the uterus, whose cavity was continued, without well-defined marks, with the vagina, and was full of mucous. The horns and the Fallopian tubes were well developed. There were no ovaries, but in their place two testicles, whose efferens canals ran a course inverse to that of the Fallopian tubes and ended near the corresponding horn. The vesiculæ seminalæ were not placed immediately above the bladder,—they were resting against the bladder a little above the urethra. Their excretory ducts, after a course through the thickness of the vaginal wall, opened upon the urethral crest.

ENUCLEATION OF THE RIGHT EYE OF A DOG.—As a result of a deep wound of the cornea with total ophthalmia of the globe, a hunting dog was operated upon by enucleation of the eye. A circular incision was made around the conjunctiva, the right, lateral and oblique muscles were divided, then the posterior and the optic nerve. There was no anæsthetic used. The hæmostasis was made by plugging. Dressings of iodoform brought on cicatrization in twelve days. The peculiarity in this case was that no division of the eyelids or of the temporal canthi were necessary to remove the globe.—[This division has already been considered unnecessary by many surgeons.—ED.]—(*Clinica Veterinaria.*)

GASTROPHILUS EQUI AND PERRONCITO METHOD.—By the presence of œstri at the margin of the anus after defecation, the diagnosis was made. The horse that had them had shown recently a great state of nervousness; in the stable he rubbed his tail against the wall and showed great pain at the time of defecation. The treatment adopted was that of Professor Perroncito. The day before, little hay, half ration of oats; in the evening, thin white gruel to drink. The day of the treatment, at 6 A.M., before eating, he received two capsules of 5 grammes each of sulfur of carbone; at 8 A.M., two others; at 10 A.M., two more; at 12 he had half ration of oats; at 3 P.M., another, and then the ordinary regimen was resumed. The third day he had 400 grammes of castor oil. The purgative effect was excellent, and as to that of sulfur of carbone as a cure, it was simply marvellous.—(*Giornale di Med. Vet.*)

NASAL POLYPUS SIMULATING GLANDERS IN A HORSE.—This animal had been discharging on the right side for eight months. In the discharge were seen many micro-organisms, some of which looked like those of glanders. Cultures on potatoes, after two days, gave colonies, among which some had the characteristic coloration of those of the bacillus mallei. Three tests of mallein gave only a slight increase of temperature, and local reaction, which excluded the idea of glanders. The animal was destroyed. At the post-mortem, no glanderous lesions were found anywhere, but in the right sinus there was a large mass looking like condensed mucous, which under the microscope showed to be composed of round cells, imbedded into an intercellular connective structure. It was a pedunculated sinus.—(*Giorn. Reale Soc. Vetere.*)

ENTEROTOMY IN A SLUT.—The symptoms presented by the animal justified a diagnosis of duodenal obstruction, produced by a foreign body (chicken-bone) or parasites. Purgatives and anthelmintics gave no favorable result. After a week, the epigastric tension being reduced, the author observed on a level with the hypogastric region, a hard spot, something like a peach-pit. The ninth day this point was very painful and the condition of the animal very critical. It was decided to operate. The intestines were exposed and the peach-pit was extracted. The suture of Lambert was not used, but an ordinary very close-stitched suture applied. The animal got well, quite rapidly.—(*Clinica Veterinaria.*)

MEASURES OF MILITARY SANITARY POLICE.—The Secretary of War of Italy has sent a general circular relating to the sanitary measures to be taken to arrest outbreaks of glanders. Isolation of all animals suspected in quarters far from the others, disinfection most thorough of their own stalls, harnesses, etc.; three tests of mallein, and inoculations to horses or donkeys are also recommended in doubtful cases.—(*Il Nuovo Ercolani.*)

SOCIETY MEETINGS.

PENNSYLVANIA STATE BOARD OF VETERINARY MEDICAL EXAMINERS.

The Pennsylvania State Board of Veterinary Medical Examiners held their first examination at Philadelphia on April 20th and 21st. By courtesy of the Mayor of the city, the examinations were held in the civil-service examining rooms in the City Hall, and afforded every facility for the completion of the work as well as the comfort and convenience of the applicants.

The examination commenced at 10 A.M. each day and lasted until 6 P.M., with an hour's recess at noon. The entire board was present.

Some fourteen applicants presented themselves, representing the Ontario Veterinary College, New York Veterinary College, and National Veterinary College. Some thirteen subjects for examination, designated by the law, were grouped to make eleven and were all written; fifteen questions were submitted on each subject, ten to be answered.

Of the fourteen applicants three were successful and eleven failed. The names of those passing and who received the licence of the board are as follows: Dr. Elmer Seitz, Seitzland, Pa., graduate of the National Veterinary College; Dr. W. R. Jobson, Franklin, Pa., graduate of the National Veterinary College; Dr. Wm. S. Longacre, Mantz, Schuylkill County, Pa., graduate of the Ontario Veterinary College.

The Board, after thorough consideration of the matter, decided to leave it optional with the applicants who failed as to whether they should elect to take over again the whole examination, or only those subjects on which they failed. In the event of choosing the latter, the markings on the subject passed to count in computing the general average (65 per cent.) to entitle to license.

The Board authorized the immediate prosecution of three violators of the act, and decided upon the most vigorous action in dealing with all violations of the several provisions of the Act. Every prothonotary in each county of the State has been personally notified to register none without a license of the Board, bearing the State seal; and in every county of the State a qualified veterinarian will be designated to look after any violators or violations of the provisions of the Act. An arrest has been made in York County, and the violator is now under bail, and the most vigorous prosecution will be pursued in sustaining the Act, in order that the value of the provisions of this law shall be fully tested.

The next meeting will be held in Philadelphia on June 15th and 16th. W. HORACE HOSKINS, *Secretary*.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The April meeting of this Association was called to order on the evening of the 14th by President John R. Hart, with the following members present: Drs. J. R. Hart, W. H. Hoskins, H. P. Eves, Chas. Lintz, J. T. McAnulty, F. S. Allen, and W. L. Rhoads.

After a report of the work done by the State Board of Veterinary Medical Examiners, Dr. Hoskins, by request, made a report as one of the committee appointed by the Mayor to select a consulting veterinarian for the city staff of meat and milk inspectors.

Dr. Allen was now unanimously elected to membership.

The question of society certificates was agitated, and, after a short discussion, Drs. Hoskins and Rhoads were appointed by the President as a committee to report at the next meeting as to cost, etc.

Dr. Chas. Lintz being essayist for the evening, read a very interesting paper on "Pleurisy, Acute and Chronic," in which he spoke of several very interesting points in the causes, symptoms, complications, sequellæ, and remedies ordinarily used, also those he found most useful, viz.: In the first stage (which, by the way, the practitioner seldom sees, unless favorably near at hand), he advocates the use of mustard, to the sides and sternum. Also, ℞ Quiniæ sulph, ʒ iv; terebinthinæ, and acaciæ pulv., of each, ʒ vi to ℥ iss—giving ℥ i at a dose. Second stage, do away with mustard and alternate with soda salicylate every two hours. After five or seven days give iodide of potassium.

This paper aroused an earnest discussion, some advocating the use of most powerful heart stimulants, nitro-glycerine and nux, claiming digitalis was not to be relied upon.

Dr. Hoskins cited the case of a brown driving mare, eight years old, weight 1045 lbs., which at times appeared dull and had a peculiar tossing of the head, profuse sweating, and at this time incoördination of movement. Diagnosis, cerebral ænemia.

Meeting adjourned to reconvene May 12, 1896.

The May meeting of the Keystone Veterinary Medical Association was called at 8:30 on the evening of the 12th, by President John R. Hart, with the following present: Drs. F. S. Allen, H. A. Hackley, J. R. Hart, Chas. Lintz, W. H. Hoskins, H. J. McClellan, and W. L. Rhoads.

Dr. Hoskins, as chairman of the committee appointed to look up the question of cost of certificates, made a very favorable report, and, on motion of Dr. Lintz, the committee was instructed to procure a number of certificates before the next meeting, at which time they will be given to all members in good standing.

Dr. Hoskins, by request, made a report as a member of the State Board of Veterinary Examiners, stating that of fourteen applicants but three were successful. The examination papers throughout showed that a good primary education was essential to the veterinary student, and urged that all schools be more careful in their examination of their matriculants, if they would at all times graduate men who would be an honor to their alma mater. The next examination held by the Board will be June 15th and 16th. After July 1st, 1896, every applicant for examination must come from a three-year school. It is to be regretted that the curriculum of several of the schools now in existence will not be eligible for this examination.

Great credit was given Professors Brenton and McEachran, late of the Detroit Veterinary College, for their laudable efforts to secure a three years' course for the students there, and it was unanimously agreed by those present that a college could ill-afford to lose such men.

It was now moved and seconded that an order be drawn for the payment of the rent for the current year.

Dr. Lintz now moved that in connection with the next meeting we have a lunch as a finale to one of the most pleasant, instructive and prosperous years in the association's history. This was seconded and unanimously voted upon. The President appointed Drs. Lintz, Hoskins and Allen to take charge of that feature of the meeting.

Dr. Rhoads now read some extracts from medical journals, deriding the germ theory, which caused the ardent followers of Pasteur to announce themselves, they giving personal observations in osteoporosis, bovine actinomycosis, typhoid and other fevers, hog cholera, pneumonia, etc.

After the report of a complicated case by Dr. McClellan, the society adjourned until June 9th, 1896.

The June meeting of the Keystone Veterinary Medical Association was called to order by President J. R. Hart, at 8:15, Tuesday evening, the 9th, with the following members of the profession present: Drs. Thomas Rayner, Jas. B. Rayner, Hile P. Eves, Harry J. McClellan, Francis Allen, Jas. Johnston, Chas. Goentner, Jas. T. McAnulty, W. H. Hoskins, John R. Hart, and W. L. Rhoads.

The Committee on Certificates presented a form for the approval of the members. There were a number of suggestions made, principal among which was that the form so read as to show the date of a member's initiation, also the date of adoption of certificate. The committee was continued till the next meeting, with instructions to have the certificates at that time, when they would be presented.

Dr. Hoskins spoke of a bill before the United States Senate, known as Senate Bill 1552, and destined to prohibit all vivisection and experiments with animals. This induced an animated discussion, the sense of the Association being that its passage would only cause those who were interested in science to evade or violate the law.

It was then moved and seconded that the Association, through the Secretary, take official action in condemnation of the bill.

Dr. Allen, as chairman of the Lunch Committee, now made a report stating that the verification of what he said would be found at the restaurant in the Odd Fellows Temple.

It was now moved and seconded that the Association pay for the luncheon, and the Secretary was instructed to draw on the funds for the amount.

Communications were now read from a number of members and invited guests.

The resignations of Drs. S. J. J. Harger and J. Rein Keelor were then read, voted upon, and accepted by the Association.

The Board of Censors now thoroughly examined the membership roll, and recommended for expulsion for non-payment of dues the names of seven members. This action was fully indorsed by the Association.

Dr. Goentner cited three cases of stomatitis accompanied by a general inflammation of mucous membranes, and a profuse catarrhal condition of stomach and bowels. These dogs were kept in good hygienic surroundings, fed on oatmeal, and cracklings, and about five weeks intervened between the cases. Was it contagious?

The report of a case of impaction kindly sent by Dr. E. H. Moore was laid over till September, as the time was growing late and it was thought advisable to adjourn to the dining hall, which was immediately done, with such alacrity that you might have thought banquetting was the principal aim in the life of a veterinarian. Here too the zest shown proved that every true veterinarian (and the membership and friendship of the K. V. M. A. is composed of this class exclusively) believes that what is worth doing is worth doing well, and immediately. It was also conclusively proven that they were not adherents of the theory that like cures like, or each must have felt troubled with clam and willing to be again, one member having as high as —— empty plates to his credit. In fact throughout every one proved himself to be an adherent of the old rule which saith : " Eat, drink, and be merry, for to-morrow you may die."

This part of the programme was fraught with quite as great an interest as the first had been, and, as the evening wore on, the participants became more interested, more enthusiastic, and, strange to say, more eloquent than usual.

This like unto other worldly affairs of pleasure, wound up in smoke, and, with hearty good fellowship, the meeting adjourned, thus ending one of the most successful years in the history of this the oldest local veterinary medical association in existence.

JOHN R. HART, *Pres.*
W. L. RHOADS, *Sec.*
FRANCIS BRIDGE, *Treas.*

MISSOURI VALLEY VETERINARY ASSOCIATION.

This Association held its second annual meeting in the parlors of the National Hotel in Leavenworth, Kansas, Wednesday, June 10th, 1896. The meeting was promptly called to order by President Stewart, the following members responding to roll-call: Drs. Bray, Harrison, Hunter, McCurdy, Sihler, Stewart, Biart, Pritchard, Kaupp, and Payne. Visitors: Drs. T. J. Turner, Day, and Hopkins.

The minutes of the February meeting were read and approved.

The Censors reported favorably upon the applications of Drs. Day, Turner, Hopkins, and Brooking for membership, and they were duly elected.

The Secretary's report was read and ordered filed.

A resolution was presented to change Art. I., Chapter II., of By-laws.

President Stewart then gave his annual address, being an excellent paper and thoroughly enjoyed by all. Dr. McCurdy's paper on "Tuberculosis," Dr. Pritchard's views on "Control of Contagious Diseases," Dr. Moore's "Castration of Cryptorchids," Dr. Biart's "Preventive Inoculation for Contagious Pleuro-Pneumonia," were all excellent papers,* and discussion upon the same continued until nearly 1 A.M., and great interest was manifested throughout. The election of officers resulted in the re-election of Dr. S. Stewart, President; Dr. Geo. C. Pritchard, Vice-President; Dr. T. J. Turner, 2d Vice-President; Dr. S. L. Hunter, Secretary and Treasurer. Censors: Drs. Sihler, Payne, Hopkins, Bray, and McCurdy.

The following were appointed to prepare papers for the next regular meeting in October: Drs. Hopkins, Day, Harrison, Sihler, C. O. Netherton, J. O. Young, and C. B. McClellan.

Upon motion, duly seconded, the meeting adjourned to meet in Kansas City, Mo., in October.

S. L. HUNTER, V.S., D.V.S., *Secretary.*

SCHUYLKILL VALLEY VETERINARY MEDICAL ASSOCIATION.

This association held its annual meeting at Hotel Woll,

---

* These papers will be published as early as possible in the REVIEW.

Pottsville, Pa. June 17th. The meeting was called to order by President Dr. S. G. Burkholder, in the chair, at 10 A.M. On roll-call the following members responded: Drs. Burkholder, Sallade, Faughman, Friderici, Noack, Snyder, Kershner, Bieber, Moyer.

The minutes of previous meeting were read and approved.

Dr. W. H. Yingst, of Harrisburg, Pa., was duly elected as a member of the Association.

The following officers were elected by ballot for the ensuing year: President, Dr. S. G. Burkholder, Denver; Vice President, W. H. Moyer, Elizabethville; Corresponding Secretary, Otto Noack, Reading; Recording Secretary, U. G. Fridirici, Tamaqua; Treasurer, Frank McCarthy, Pottsville; Trustees, J. W. Sallade, Pottsville; P. I. Kershner, Fleetwood; U. S. G. Bieber, Kutztown.

Dr. Otto Noack was appointed delegate to the State Veterinary Association, which meets in September, in Reading, Pa. Dr. J. W. Sallade was appointed delegate to the United States Veterinary Medical Association, which meets in Buffalo, N. Y.

The following papers were read and discussed: "Mange," U. S. G. Bieber; "Castration," W. H. Moyer; "Emphysema," Otto Noack.

Reports of Cases.—Dr. U. S. G. Bieber was called to see a case May 8th; found it to be a bay gelding, twelve years old, suffering from enlargement of right cheek. He at once diagnosed the case as salivary calculi, and advised an operation, which was performed. Upon removal of same, found it to weigh eight ounces. A complete recovery was the result.

Papers for next meeting.—J. W. Sallade, "The Social Position of the Veterinarian"; J. C. Faughman, "Tetanus"; A. Pattieger, "Pneumonia"; W. H. Yingst, "Shoeing"; U. G. Fridirici, "Periodic Ophthalmia."

Meeting adjourned 3 P. M.; next meeting to be held in September, in the city of Reading, Pa.

DR. U. G. FRIDIRICI, *Secretary.*

MASSACHUSETTS VETERINARY ASSOCIATION.

The thirteenth annual meeting of this Association was held at Young's Hotel, Boston, April 22, 1896.

The only business of importance was the election of officers, as follows: President, Dr. John M. Parker, Haverhill; 1st Vice-President, Madison Bunker, Newton; 2d Vice-President, Daniel Emerson, Lynn; Secretary and Treasurer, Howard P. Rogers, Allston. Executive Committee, Drs. Thomas Blackwood, Boston; Wm. E. Peterson, Waltham; Henry Lewis, Chelsea; J. R. McLaughlin, Newton; Geo. Lee, Brighton.

After the business was completed the members adjourned to the banquet hall. As there were no invited guests present, the after-dinner exercises were very informal.

HOWARD P. ROGERS, *Secretary*.

THE CONNECTICUT VETERINARY MEDICAL ASSOCIATION.

The annual meeting of this Association was held at the office of Dr. Thomas Bland, Waterbury, on the evening of June 2.

Dr. R. P. Lyman, of Hartford, and Dr. R. D. Martin, of Bridgeport, were elected members.

Applications for membership were received from Dr. P. T. Keeley, and Dr. E. P. McKenna, and referred to the Board of Censors.

The following officers were elected: Dr. Harrison Whitney, President; Dr. E. R. Storrs, First Vice-President; Dr. R. P. Lyman, Second Vice-President; Dr. H. W. Eliot, Secretary; Dr. J. H. Kelley, Treasurer. Board of Censors—Dr. J. E. Gardner, Dr. R. P. Lyman, Dr. Thomas Bland, Dr. M. Isaacs, and Dr. R. D. Martin.

Dr. Bland read a paper describing an operation of opening a mucous cyst situated at the base of the tongue and pushing the epiglottis backwards completely, closing the larynx.

After the meeting adjourned a banquet was served, which was much enjoyed by all who were in attendance.

The next meeting will be held in Hartford, Conn.

H. W. ELIOT, *Secretary*.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular meeting of this Association was called to order Tuesday, June 2d, at 8:30 P.M., at the Academy of Medicine, by the President, Dr. Huidekoper.

On roll-call, the following members responded: Drs. Bretherton, J. S. Cattanach, Delaney, Ellis, Glover, Huidekoper, Hanson, Lellman, MacKellar, Neher, and O'Shea.

The minutes of the previous meeting were read and approved.

Reports of Committees.—Judiciary Committee (Dr. O'Shea, chairman) reported the passage of the Cole Bill, and made a brief report as to what the committee were doing with non-registered men. Moved and seconded that the report be accepted. Carried.

Committee on Alteration in By-laws (Dr. Hanson, chairman) reported that the committee offered the following alteration in Art. 13 of the By-laws. To read : "The Association shall meet upon the first Wednesday of each month at the Academy of Medicine, except during July, August, and September," instead of, "The Association shall meet upon the first Tuesday of each month, except during July, August, and September." Moved and seconded that the report be accepted. Carried.

Moved and seconded that registered veterinary graduates of Kings, Queens, Richmond, and Westchester counties be eligible to membership in the Veterinary Medical Association of New York County. Carried.

Moved and seconded that the Secretary invite practitioners from said counties to the October meeting. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Secretary.*

COMMUNICATIONS.

WHO HAS THEM?

FARGO, NORTH DAKOTA, May 29, 1896.

Editors American Veterinary Review:

GENTLEMEN:—Will you kindly send us the following numbers of the AMERICAN VETERINARY REVIEW : Nos. 1, 9 and 10 of Vol. XVI. Send bill with the same to the N. D. A. C.

Yours truly,

T. D. HINEBAUCH, M. S., V. S.,
North Dakota Agricultural College.

A REVIEW OF LEGISLATION IN NEW YORK DURING THE PAST SESSION.

117 W. 46TH STREET, NEW YORK CITY,
June 15th, 1896.

Editors American Veterinary Review:

DEAR SIRS:—I have received your favor, asking me, as Chairman of the Committee on Legislation of the Veterinary Medical Association of New York County, to furnish you with a *résumé* of the various legislative doings affecting the veterinary profession of this State at the late session of the legislature, for the information of your readers, and I present the following brief synopsis, with a few comments where thought advisable.

The original Cole Bill asked for the registration of any person practicing, whether he be a graduate of a veterinary school or *not*, but that bill was so strongly opposed by the veterinarians of the two societies (the State and New York County) that it never came out of committee in that shape, but was changed so that when later on it appeared, it was not objectionable, as it allowed only veterinarians to register who were graduates of a veterinary school. This bill (which I enclose) is known as Assembly bill Nos. 249, 1183, 1349, 1538; introduced by Mr. Cole. Of course, the committee I represent feel that the above bill—which, by the way, has become a law and was signed by Governor Morton last week—is good legislation, as it allows only graduates of veterinary colleges who had omitted to register to do so, but none others.

Assembly Bill No. 995, 1807, introduced by Mr. Harrison, being an act to enable James Wixon, of Steuben County, to practice veterinary medicine and surgery as a profession. It is quite easy to see at a glance what a dangerous piece of legislation this would be had it passed and become a law, and I would ask you to as vigorously denounce even the attempt to pass such bills in your paper as you can. I think even our legislators ought to read an article in our journals that would to a great extent check their zeal in introducing such measures for the benefit of empirics, to the untold injury of the legitimate profession of the State. Imagine, dear sirs, what the practitioners of human medicine and their press would do if a bill like this was introduced for the benefit of some person wishing to practice human medicine by a special act of legislation. I am of the impression that such an act would kill the gentleman who introduced it. Political and lay journals would be teeming with protests. Of course, it is needless for me to say I am happy to know this bill was killed in committee.

Other bills asking for the extension of registration are enclosed herewith. They were all killed in committee.

Senate Bill No. 227, introduced by Senator Sullivan, asking for exemption of veterinarians from jury duty in New York and Kings Counties, was also introduced in the Assembly by Assemblyman Leonard, and was passed by that body, but in the Senate it never got out of Codes Committe. On investigation I found out that the committee had not any real reason to keep it there, only that they had agreed not to report any exemption bills because there were so many of them; but if any were to go out of committee it would have been ours. However, next session I have almost positive assurances that this bill will pass in all right and will not be opposed, as my friends in the legislature have told me so.

Trusting that the above will cover the ground of your inquiry, I remain,
Yours very truly,
ARTHUR O'SHEA,
Chairman Committee on Legislation,
Vet. Med. Asso. New York County.

THE EMBARGO ON FOREIGN CATTLE.

The following correspondence explains itself:

BALDWINS, L. I., N. Y., June 12, 1896.

Editors American Veterinary Review:

Inclosed please find a letter from Secretary of Agriculture Morton in reference to Swiss cattle.

A previous letter of similar import in reference to French cattle was received from the Secretary.

I purpose to ascertain whether healthy cattle from either of these countries, after having passed quarantine and tested with tuberculin, may not be imported through Belgium, Germany or Holland.
Yours truly,
A. S. HEATH, M. D. V. S.

UNITED STATES DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
WASHINGTON, D. C., June 5, 1896.

Dr. A. S. Heath, 205 Patchen Ave., Brooklyn, N. Y.:

SIR:—Replying to your letter of the 3d inst., I regret that I am unable to certify that cattle from Switzerland can be brought into the United States without danger to the domestic animals of this country. Pleuro-pneumonia and foot-and-mouth disease are both prevalent in Switzerland, and it was principally to protect against these diseases that Congress enacted the prohibition.
Very respectfully,
J. STERLING MORTON,
Secretary.

THE TREATMENT OF PARTURIENT APOPLEXY.

QUINCY, ILL., June 9, 1896.

Editors American Veterinary Review:

I was interested and pleased to notice in the May number, that Dr. Curtiss, of Marengo, Ill., and I had arrived separately at about the same conclusions in the treatment of parturient apoplexy. I had not used the fluid extract of calabar bean, but had used jaborandi, ℥ ii, and spts. nitrous ether, ℥ ii, in an eight ounce mixture. I have given one-half ounce on the tongue every half hour until half the mixture is given (the same dose practically as Dr. C.), afterwards increasing the time between doses. It has proven infallible (so far) in the early stages or in mild cases, coming on after the third day.

My last case became delirious in six hours and tried to run at us, but one ounce of bromide of potassium relieved those symptoms. This is the second time I have had this form, merging into *Eclampsia.* By actual calculation, as well as experience, I believe that three drams of the fluid extract jaborandi are equal to one grain pilocarpine, though slower in effect, and safer because milder. Yours,

J. F. PEASE, D. V. S.

ABOUT THE AMERICAN RING TWITCH.

LEOMINSTER, MASS., June 12, 1896.

Editors American Veterinary Review:

DEAR SIRS:—Can you or any of your subscribers tell me how the so-called "American Ring" twitch is applied to a horse? I noticed a cut of it in an English instrument catalogue. It consists of 3 rings and 3 pieces of soft cord. Yours respectfully,

DR. WM. H. DODGE.

THERAPEUTICAL RECORDS.

BORAL.—The boro-tartrate of aluminum, also known in pharmaceutical technique as boral, possesses astringent properties and bactericide qualities which renders it very useful in diseases of the ear—auricular catarrh. It can be used in solution or in powder—having no irritating effects on the tissues.

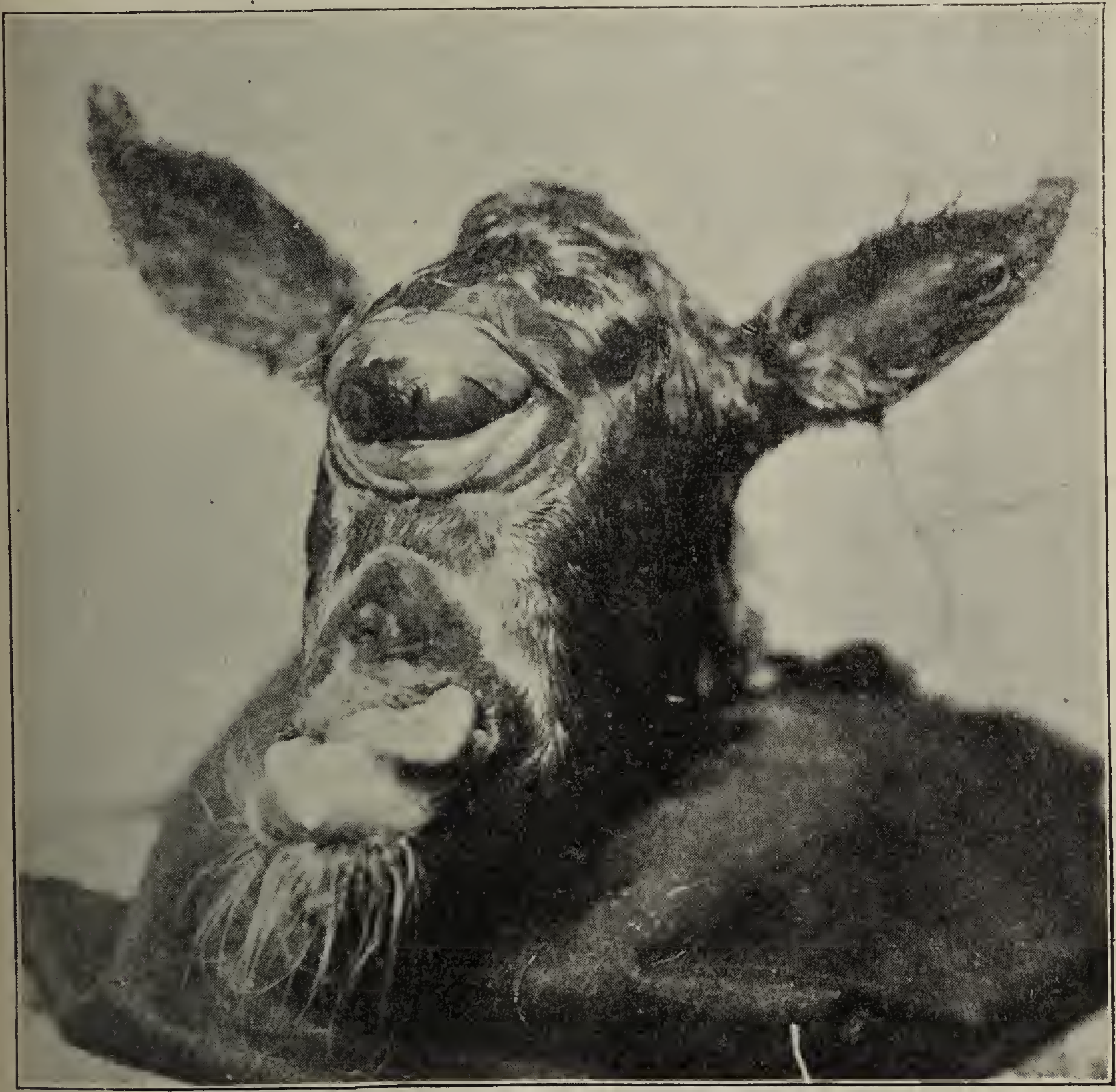
CUTOL.—This is a boro-tannate of aluminum,—which is astringent and antiseptic, is better used for eczemas, cutaneous sores or ulcerations. It can be used as an ointment or powder—Ointment: ℞ Cutol, 1 part; olive oil, 10 parts; lanolin, 26 parts. Mix. Or ℞ Cutol, 10 parts; olive oil, 20 parts. Mix. Powder: Cutol, oxide of zinc, and powder of talc, āā equal parts. Mix. Sig. External use.

NEW ANTITÆNIACIDE SOLUTIONS.—The solutions of iodurated iodine solutions are recommended as a positive form of treatment against tape-worm, always followed by expulsion of the parasite, and no return of the trouble: Iodide of potassium, 2 gram. 25; crystal iodine, .0 gram. 75; water, 30 grammes. Mix. Fiat sol. Sig. 10 drops three times a day.

Borate of Soda.—Soluble in solutions of chloride of calcium and of borax, it is employed with advantage in the shape of an ointment against burnt wounds and eczema. Internally it is used as an antidiarrhœic in dogs at the dose of 0.50 centigrammes.

THAT FAMOUS ASTOR COLT.

This monstrosity was born at the Astor stables, Rhinebeck, N. Y., on the night of May 28th, 1896, the sire being "Confidence Shot," an imported Hackney stallion, 9 years old, the mother, "Alice," being a common-bred mare, brought on from Maine by Dr. Webb, she being 9 years old, and this her first colt. The colt was perfect in body, large, strong and lively, and would



undoubtedly have lived had pains been taken to feed it, which was done with a bottle a couple of times, until this afternoon, when I put an end to it by opening its jugular. The mother, a year ago, had an acute attack of laminitis (both fore feet) brought on by a long drive. She was down a long time, unable to stand, the soles finally sloughing and dropping, but she eventually made a perfect recovery.

It is claimed in human medicine that sudden frights and great emotional excitement are among the causes of such anomalies. The mother of this was frequently chased by a bulldog belonging on the place, and two or three times caught in the nose by the dog. Frank Traver, D. V. S., Rhinebeck, N. Y.

[Dr. Traver sent the head of this colt to the museum of the American Veterinary College.—Ed.]

OBITUARY.

JAMES HAMILL, D. V. S.

This well and favorably known practitioner died suddenly from heart disease on Friday, May 29, while occupying the witness chair in the 6th district civil court, and giving expert testimony in a horse case.

Dr. Hamill was born in Bellacastle, County Antrim, Ireland, 55 years ago, attended the national school and served an apprenticeship in horse-shoeing under his father. He came to this country in 1861, worked as a journeymen horse-shoer in various shops, until he formed a copartnership in the horse-shoeing business with Mr. Jas. Atchison, some thirty years ago, locating on 14th Street, near 2d Avenue, New York, which shop he still conducted at the time of his death.

During the many years he devoted to horse-shoeing, he made a special study of the horse's foot and its diseases, and invented many mechanical devices for the scientific treatment of diseases of horses' feet, and to overcome faulty action. His collection of horse-shoes, especially designed to relieve the numerous pathological conditions daily met with in practice, is to-day probably the must complete of any in the country.

He matriculated at the New York College of Veterinary Surgeons in 1876, and graduated from the Columbia Veterinary College in 1879, with honors, in the same class with the late Dr. J. F. Mustoe, of Brooklyn, and the late Dr. C. A. Meyer, of New York. He at once started in practice and in a short period of time gained a reputation as a skilful, painstaking and conscientious veterinarian that his many friends were justly proud of. He lectured on scientific horse-shoeing and diseases of horses' feet at Columbia Veterinary College, for a number of years, and when that institution became amalgamated with and absorbed by the American Veterinary College, he became a member of the faculty of the New York College of Veterinary Surgeons and filled the chairs of anatomy and physiology until 1890, when he severed his connection with the last named institution and devoted his time exclusively to his extensive practice.

As a practitioner Dr. Hamill was not only extremely skilful, but most painstaking, and above all honest and conscientious in all of his dealings. His vast knowledge and great skill were employed only in the interest of his clients, and even men whose tempers he had ruffled, by a strict and rigid performance of professional duties, could not help but honor and respect him. He leaves a widow, three sons, two daughters and a large circle of personal friends to mourn his unexpected and untimely end.

G. H. B.

REVIEW OF EXPERIMENTAL PATHOLOGY.

Upon the Toxicity of the Muscular Juice of Thyroidectomized Animals [*By G. Vassale and C. Rossi*].—The thyroidectomized dog, in advanced strumiprive cachexia, furnishes a muscular maceration which, injected after simple filtration, produces a toxic action upon the dog, when introduced through the veins. The same preparation with the normal dog has no effect. The symptoms are: Stiff and staggering gait, with flexion of the hind quarter; dullness, anorexia, vomiting, fibrillar contractions, muscular shakings, tonic and even clonic convulsions. The result is positive, whether the operation is performed on a normal or a thyroidectomized dog, but offering yet no symptoms. The juice filtrated on Pasteur bougie, remains without effects. The juice from the liver is less toxic, and that of other viscera still less; much more so if injected into the peritoneum instead of the veins. The muscular toxicity will be greater as the morbid symptoms following the thyroidectomy shall have been more severe and long.—(*Arch. Ital. Biol.*)

New Observations upon the Diagnostic and Curative Effects of the Products of the Bacillus of Glanders [*By A. Bonome*].—1st. Mallein promotes in the man suffering with chronic glanders a stronger reaction than in a healthy man (about 25 times), viz.: an elevation of temperature after 4 to 7 hours; turgidity of the conjunctiva and nasal mucous membrane, polyuria; as local lesion, a slight, painful and temporary tumefaction. 2d. The hyperthermia is in proportion to the injected mallein (the activity diminishes a little in the following injections). In the days following, there is an inverse reaction (hypothermy at 35 5), which lasts 48 hours, without other symptoms. Repeated injections of mallein in a glanderous patient, have produced a noticeable improvement, but not curative, no more than in guinea-pigs, dogs or horses.—(*Arch of It. Biol.*)

REGENERATION OF THE SPLEEN IN A RABBIT [*By Mr. Ceresole*].—The total splenectonomy is well supported by even young rabbits; it does not interfere with nutrition; but there is never a trace of neoformation of the removed organ. There is neither regeneration of the spleen after partial removal of the organ. The left fragment does not increase in size, and its parenchyma does not appear to be the seat of a greater activity. After total or partial splenectonomy no macroscopic change can be observed in the lymphatic glands or the bony marrow of the healthy animal. The recovery of the wounds of the spleen leaves a fibrous cicatrix, formed by the proliferation of the fixed cells of the reticulum and of the capsula; which seems to play in this process the most important part.—(*Rev. Sc. Med.*)

ANTI-ANTHRAX SERUM [*By Mr. E. Marchoux*].—The serum of animals (rabbits, sheep) brought by degrees to support very strong doses of bouillon cultures of anthrax, obtains a special property; it possesses positive preventive qualities, it is curative. After the injection of this serum, a temporary stimulation is observed in the reaction of the phagocites, which brings on the destruction of the bacteridies. In animals, vaccinated by attenuated viruses, they are also destroyed by the phagocites, but with them the resistance lasts longer.—(*Ibid.*)

A CASE OF REGENERATION OF THE SPLEEN [*By Mr. Laudenbach*].—After extirpating the greater part of the spleen in a dog, the animal was allowed to live with what remained. After six months it was found that the organ was entirely regenerated, and had resumed the dimensions and structure of the normal spleen. It weighed 17 grammes, while the part which had been extirpated weighed 19 grammes, 2.—(*Rev. Sc. Med.*)

BIBLIOGRAPHY.

MARÉCHALERIE (Horse-shoeing), by A. Thary, Army Veterinarian, late repetitor to the Veterinary School of Alfort. 1 Vol. 16 mo., 458 pages, illustrated with 303 plates. A part of the *Veterinary Encyclopedia af Cadéac.*

The practice of horse-shoeing is not limited to only the application of a shoe on the foot; it demands of the shoer, besides its manual dexterity, special knowledge, relatively extended, on the anatomy, physiology and mechanism of the digital region. This practice consists in the preparation and methodical application on the hoof of the horse's foot of a metallic protection to guard it against wearing, to render its standing more firm, at the same time preserving its form, properties and the action of each of its parts. It has also for its object to palliate or correct defects, congenital or acquired, as well as diseases of the feet and of the extremities. Horse-shoeing is as much a science as it is an art. Mr. Thary's work is divided into four parts: 1st. Anatomy, Physiology and Mechanics of the foot. 2d. I. Ordinary shoeing; II. French shoeing proposed to replace the traditional; III. English shoeing; IV. German shoeing; V. Other foreign shoeing; VI. Bar shoe. 3d. I. Shoeing for defects of the foot and of the legs; II. Shoeing for diseased feet and legs; III. Shoeing after surgical operations; IV. Shoeing for winter-ice. 4th. I. Shoeing of donkeys and mules; II. Shoeing for cattle.

"Horse-shoeing" of Mr. Thary is one of the most complete works, under its limited size, and by its references to the progress made of this science all over the world, is caused to become the vade-mecum of all interested horse-shoers, veterinary practitioners and students. To Americans it must prove a work of great importance, taking into consideration the interest that is taken on this subject by all American horsemen. The work is published by the well-known house of J. B. Baillière & Sons, of 19 rue Hautefeuville, Paris.

PRACTICAL GUIDE OF DOSIMETRIC MEDICINE.

Another work from that wonderful man, the father of that new medical method, Doctor Burggraeve, who by writings, facts and every means at his disposal, in professional struggles, has left no stone unturned to arrive successfully to the reform of therapeuty that he had inaugurated years ago. Address Dr. Burggraeve, rue des Bagnettes, Gand, Belgium.

NEWS AND ITEMS.

ELMER E. CRITCHFIELD, western editor of the *National Stockman and Farmer*, has accepted the chair of Hygiene and Breeding at the McKillip Veterinary College.

THE various departments of Brooklyn are filled with veterinarians. Why are not all of those of New York City so filled? Judiciary Committee, here is your chance.

DR. W. L. WILLIAMS, of Bozeman, Montana, visited Chicago on a flying trip and spent two hours at the Chicago Veterinary College in demonstrating that the horses of Montana recover from glanders.

W. L. RHOADS, D.V.S., of Landsdowne, Pa., the energetic secretary of the Keystone Veterinary Medical Association, has in course of construction a large modern veterinary infirmary, necessitated by the requirements of his clientage.

PROF. J. HUGHES has been chosen representative of the Chicago Veterinary College to the coming meeting of the Association of Veterinary Faculties at Buffalo. The doctor will be welcomed as a new and influential member of this association.

DR. L. H. HOWARD, President of the Alumni Association of the A. V. C., has appointed the following members to act on the Executive Committee: Drs. W. H. Lowe, H. D. Hanson, E. B. Ackerman, J. F. Winchester, H. E. Holden, D. J. Dixon, J. B. Hopper.

THE Veterinary Medical Association of New York County held its last meeting till fall at the Academy of Medicine Tuesday, June 2d. The meetings in the fall will be held on the first Wednesday of each month instead of Tuesday, as heretofore.

GLANDERS IN AUSTRAL AFRICA.—According to researches made by Sander, a German physician, glanders had not been observed in South Africa before 1864, since which time it has rapidly spread in the Cape colonies. The southwest is still free from it.

DR. THEOBALD SMITH, formerly of the Bureau of Animal Industry, Washington, D. C., has been elected by the Board of Overseers of Harvard University as professor of comparative pathology, a chair newly created by a gift of a Boston citizen.

IMPORTATION OF CANADIAN CATTLE INTO ENGLAND.—The Montreal Board of Trade has addressed the English government for the abrogation of the restrictions imposed on Canadian cattle. It is claimed with right, that Canada, as well as the United States, is free from contagious pleuro-pneumonia.

IN the reorganization of the faculty of the Chicago Veterinary College all the old and experienced teachers have been retained. Most of the professors have been with the college since its foundation, twelve years ago, a fact which speaks well for the college and of which its officers are exceedingly proud.

PRECOCITY AND FECUNDITY.—A correspondent writes to the *Veterinary Record* a case of a she goat giving birth to a litter of six fully grown, healthy kids, four males and two females, weighing 25 pounds altogether. The sire goat was 9½ months old. It is evidently a remarkable case of precocity and of fecundity.

M. W. TRITSCHLER, M.D.,D.V.S., graduate of the American, class of '88, who is now a successful practitioner of veterinary medicine in Cincinnati, Ohio, was a visitor at the office of the REVIEW the early part of June, being on a visit to the East on pleasure and recreation. He reports the profession in a prosperous condition in his city.

THE Judiciary Committee of the Veterinary Medical Association of New York County are in shape to commence prosecuting non-registered men in that county. The committee will be pleased to receive the names and addresses of any one practising illegally. We as veterinarians who have spent time and money to study, ought to help the Committee as much as possible.

THE members of the New York County Society have concluded to invite veterinarians of Kings, Queens and Westchester counties, to join the Society. Watch for the opening meeting in October and be present to join. Veterinarians in the above counties will do well to send their names and others in their locality to the Secretary, Dr. R. W. Ellis, 531 W. 152d Street, New York City.

TRANSMISSION OF ANTHRAX THROUGH OATS.—In December, 1895, eleven horses died in a large establishment in London with anthrax. An inquest showed that the infection was certainly due to feeding oats of Russian origin. Bacteriological examinations of samples of the oats revealed the presence of the bacillus. The oats were washed with sterilized water and fed to other animals, which died of anthrax also.

DR. ED. SAYRE, professor of dental surgery at the Chicago Veterinary College, has received a very flattering offer from the Toronto Veterinary College to come to that school in the same capacity, as the veterinary dental school there has been making inroads into the ranks of the students. This is a new kind of competition between veterinary colleges, but it is hoped that the doctor will remain with his alma mater, where he has made his reputation.

RABIES IN LONDON.—In 1889 there were 123 dogs killed in London as rabid. An order was made for muzzling all dogs, and in 1890 the return fell to 32. In 1891 13 cases were reported and in 1892 a further decrease to only 3 took place. The order was repealed in November, 1892, and the disease increased, rising to 8 in 1893, 12 in 1894, 46 in 1895. In 1896, for the months of January, February and March, 72 cases have so far been recorded.

OUR ESTEEMED CONTEMPORARY, the *Journal of Comparative Medicine and Veterinary Archives*, pays the following compliment to the REVIEW in its issue of June: "The AMERICAN VETERINARY REVIEW for May comes to its readers in a more attractive form than ever, and exhibits a determination to fully sustain its long and prosperous career. A slight change in the color of its cover-pages, a more highly-finished paper and new type of a very readable size will add greatly to the pleasure of its many readers."

UNPROFESSIONAL ADVERTISING.—The Chicago Veterinary College has the sympathy of the veterinary profession in having to acknowledge as one of her graduates R. D. Eaton, M. D. C., who has a flaming advertisement in the *Northwestern Horseman and Sportsman*, of May 15, in which he claims for his "Removine" electric power over all manner of equine ills, and goes into an idiotic and fraudulent explanation of its manner of operation. Oblivion is the only means of reaching this class, which unhappily the law has provided no adequate punishment for.

TUBERCULIN FOR CATTLE IMPORTED INTO FRANCE.—By a law of March last, all animals of bovine species imported into France, which are not to be slaughtered immediately, are to be submitted to the tuberculin test before passing the frontier or before landing from steamers. Exempted from this measure only are the animals which are to be slaughtered, when they are submitted to special regulations before they are allowed to proceed for their destination—with the object of preventing them being detained, and to insure the sanitary inspection of their meat before it goes to the market.

REGISTERING IN NEW YORK STATE.—Many practitioners in New York State had failed to register when the books closed on July 1, 1895, and they then realized what an amount of trouble they had precipitated upon themselves by thus failing to perform a very easy obligation, and a duty which should not have been left undone. When, therefore, a bill became a law on the 22d of May giving all graduated men two more months in which to become registered, by unanimous recommendation of the State Examining Board, they rushed precipitately to avail themselves of the opportunity thus afforded, and the county clerks have had considerable business on their hands of this nature.

SOME QUESTIONS FOR VETERINARIANS.—Do you keep up with the times? . . . Do you read the AMERICAN VETERINARY REVIEW? . . . Do you keep a record of your cases? . . . Do you hold post-mortems? . . . Do you report cases in the AMERICAN VETERINARY REVIEW? if not, why not? . . . Do you in any way try to advance the profession you have selected as your life work? . . . Do you ever attend veterinary society meetings? . . . Do you meet other veterinarians and talk over modes of treatment? . . . Do you use drugs—hypodermically? . . . Do you supply your own drugs? . . . Do you present your bills on the first of each month? . . . Do you get the money? . . . Do you charge extra for night calls? F. X. T.

HOW EASY IT IS TO ERR.—A well-known veterinarian said the other day that his assistant had been treating a case of colic, which had been quite persistent, and many injections of morphia had been given. Upon hearing of alarming symptoms the Doctor himself hastened to the patient, and found the animal giving unmistakable evidence of œsophageal choke, food and water being ejected through the nostrils, a distinct hard enlargement appearing in the gullet, three inches below the larynx, and painful efforts being made to swallow without accomplishing it. He had the horse sent to his infirmary, and notified the owner that he should probably have to perform a delicate operation. He placed the patient under local antispasmodic and oleaginous treatment, and gradually the symptoms disappeared, the obstruction proving to be a subcutaneous abscess, due to the injection of morphia immediately over the œsophagus. Doesn't this emphasize the instructions not to inject over the seat of important organs? What a natural error. What an embarrassing mistake.

According to the *Breeders' Gazette*, "Dr. M. E. Knowles, formerly State veterinarian of Indiana, and for several years in charge of the veterinary and sanitary work on the immense Bitter Root Stock Farm of Marcus Daly, Hamilton, Mont., has resigned his position with the 'Copper King.' He will continue his residence at Hamilton for the present. Dr. Knowles has wrought a great work at Bitter Root Farm. Abortion had completely stopped progress in the breeding of runners and trotters, and Mr. Daly was fairly in despair in the face of this insidious foe, when the reputation Dr. Knowles had acquired in the treatment of barren mares from Kentucky to California reached him, and the services of this gifted and thoroughly educated veterinarian were taken from the State of Indiana and utilized at Bitter Root Farm. We have before related the complete success of the measures instituted by Dr. Knowles to combat the plague on that farm, and he resigns his work there with an unequalled record. Among the other valuable services Dr. Knowles has rendered at Bitter Root was the saving of the life of Tammany when all had given up hope."

REVIEWS WANTED AND FOR SALE.

Vol. XIII.—I have for sale at 25 cents Nos. 1, 2, 3, 4, 5, 6, 9, 10 and 11, or will pay 50 cents each for Nos 7, 8 and 12.

Vol. XIV.—Have for sale at 25 cents each Nos. 3, 4, 6, 7, 8, 10, 11 and 12, or will pay 50 cents each for Nos. 1, 2, 5 and 9.

Vol. IX.—I have for sale Nos. 1, 2, 3, 4, 7, 8, at 20 cents, and Nos. 2, 5, and 6 of Vol. 6, ; and No. 10 of Vol. 12; also No. 1 of Vol. 13, and No. 7 of Vol. 14, at 25 cents each.

L. L. Conkey, V. S.,
Corner Butterworth St. and Indiana Ave.,
Grand Rapids, Mich.

FOR SALE.

A well paying practice in Illinois established nearly 6 years. Will sell with or without horses, barn, etc. Will sell cheap. Good reason for selling. Address: "Practice," care American Veterinary Review, New York.

America or Canada.

Wanted to know of a genuine opening for an experienced M.R.C.V.S., at either of the above places. Any one giving reliable information of a suitable town will be rewarded. Informants should state the name and population of the town, and whether there is or has been a veterinary surgeon there, also the nature and extent of the practice likely to be done. Address, 2505, V.R., 20 Fulham Road, London, S. W., England.

Veterinary Surgeons who desire legally to append M. D. to name, address Medico, 1001 Congress Street, Chicago.

AMERICAN VETERINARY REVIEW.

AUGUST, 1896.

EDITORIAL.

BUFFALO THE VETERINARIANS' MECCA.

Veterinary history is to be outdone in 1896. The annals of the past do not record any such event as the assembling in a single city of the members of three large veterinary medical associations simultaneously. We say simultaneously, although the dates are different, but all occurring within the first week of September, and a visitor to one will be the guest of the others. And not only will there be this great trio—the United States Veterinary Medical Association, the New York State Veterinary Medical, and the Ohio Veterinary Medical Societies—but the Association of Veterinary Faculties of North America will also be in session, making the most magnificent and stupendous aggregation of veterinary conventions ever gathered at one point, not only in this country, but probably in the whole world. Everything is now shaping to make this quadruple occasion memorable in our history, and the deliberations worthy of the gigantic event. Of course, the most important occurrence will be the meeting of the National Association, which will convene on the morning of the 1st day of September and remain in session until the evening of the 3d, with just sufficient intervals for the members to enjoy the delightful programme of pleasure now being arranged by the local committees. During that time much benefit is expected to flow to the members and visitors from an intellectual and social point of view. We printed in the July REVIEW a partial list of the papers to be read, and we again publish a revised synopsis of those that have been announced, and, although there will undoubtedly be more, as there always are, there are plenty of subjects for intellectual delectation and profitable discussion if these were all that will be presented to the meeting. Great questions of sanitary economy of the most vital interest to the country are thus opened up for consideration, the control and eradication of the numerous contagious and infectious diseases that not only depopulate our herds and our flocks, thereby causing great losses to our stock-raisers, but many of them transmit their infection to the systems of the members of the human family, causing in some instances so much disease as to almost approach an epidemic. These questions are live ones, and are everywhere engaging the attention of scientists, and surely the representative body of American veterinarians is to be in the van. Meat, milk, and dairy inspection is not less important, and the always-present topic of higher education will not be allowed to pass without some action to stimulate our colleges to even greater exertion than they are now putting forth. Veterinarians in almost every state are struggling for legal recognition, and the parent association can assist them by her powerful influence and her earnest sympathy. Her members will, beyond this, be interested in the subject of the many sporadic diseases that will be brought forward for consideration and discussion. And then, with social pleasures and good fellowship to be experienced by the reunion of old friends and the making of new ones, mingled with all the delights that are briefly outlined in the programme of temporal entertainment, it is hard to conceive how one can force himself to remain at home during that week, if his going is within the pale of possibility.

We subjoin the list of papers already announced, and feel assured that many others will be in the hands of the Secretary before the day of convocation :

S. B. Nelson, Washington, "Nail Wounds of the Foot."

T. A. Peters, Nebraska, "Serum-therapy in Hog Cholera."

N. S. Mayo, Kansas, "Some Poisonous Stock Foods."

A. E. E. Grange, Michigan,

M. H. Reynolds, Minnesota, "Cathartics."

L. A. Merillat, Illinois, "Veterinary Dental Surgery."

F. Braginton, Indiana, "Dairy Inspection."

D. S. White, Ohio,

J. F. Winchester, Massachusetts, "Diphtheria."

W. H. Dalrymple, Baton Rouge, La., "Some Experiences in the South."

T. D. Hinebauch, Fargo, N. Dak., "Feeding Millet."

W. L. Williams, Bozeman, Mont., "Physiological Variations."

D. E. Salmon, Washington, D.C., "Tuberculosis in Birds."

Dr. Miller (now in Berlin), subject not given.

John W. Adams, Philadelphia, "Veterinary Instruction in Schools of Farriery."

L. McLean, Brooklyn, N. Y., "Horse-shoeing."

In a letter from Dr. Nelson P. Hinkley, of the Committee of Arrangements, we are assured that his committee, with the assistance of the local veterinarians, is working hard to make every visiting veterinarian who attends any or all of the association meetings as pleasant and as entertaining for him as possible. Dr. Hinkley has kindly furnished the REVIEW with a synopsis of the arrangements for entertaining the guests, as far as they have been completed, stating, however, that they are not yet complete, and that as meetings will be held several times before convening time, they expect to have arrangements as perfect as possible by the end of August.

We append herewith the communication of Chairmen Hinkley and Willyoung, which shows the great activity of those entrusted with this aspect of the conventions :

"BUFFALO, N. Y., July 1st, 1896.

"The local committee of arrangements of the U. S. V. M. A. and the N. Y. S. V. M. Society held a meeting in the parlors of the Genesee Hotel, Buffalo, N. Y., on June 16th. They had invited all the veterinary practitioners of Niagara and Erie County to attend this meeting, to assist the members of the committee to make the necessary arrangements for entertaining the members of the U. S. V. M. A., the N. Y. S. V. M.

Society, and the Ohio State V. M. Society, that are to meet on the first week of September at Buffalo for their annual conventions. There were a goodly number of veterinarians present, and all showed a disposition to use their personal efforts to give the visiting veterinarians a royal good time. The Genesee Hotel was selected as the headquarters, special rates were procured, American plan from $2.50 per day upward, European plan $1 per day and upward. The following other hotels give the same rates: Iroquois Hotel, New Tifft House, Brozel House, Mansion House, Continental Hotel, Arlington Hotel, Stafford House, Hotel Ontario. The committee on transportation reported the different passenger agents, who are under control of the Joint Traffic Association, The New England Passenger Association, The Western Railroad Association, and the Southern States Passenger Association, that all the roads under control of these associations would grant to veterinarians attending this meeting the usual one and one-third rate for the round trip. This will give an opportunity for veterinarians in all parts of the United States and Canada to take advantage of the low railroad fare and attend one of the greatest gatherings of veterinarians ever brought together at one time in the United States.

"The committee of entertainment have nearly completed the arrangement of giv ng an excursion to the visiting veterinarians, which will enable them to view the great and only Niagara Falls, with its beautifal scenery. The route will be from the Genesee Hotel, by electric cars to the foot of Main Street, where a chartered steamer will take them a short distance up Lake Erie, and then down Niagara River to the village of Chippewa, on the Canadian side, where we will leave the boat, again take the electric cars, following close on the banks of the river, in view of the Rapids, Dufferin Park, Niagara Falls, on the Canadian side, continuing on down by the Gorge, by Clifton, Canada, to Brock's Monument, passing at the very verge of Whirlpool Rapids, to Queenstown Heights, which lies at the outlet of the Niagara River, into Lake Ontario; there we will leave the cars, and take the boat crossing the river to the American side to the little village called Lewiston, where we again take the electric cars and pass over one of the most beautifully constructed roads in the country, called the Niagara Falls Gorge Electric Road, which is built on the very verge of the Niagara River, Whirlpool Rapids, and all other points of interest. When we arrive at Niagara Falls on the American side time will be given the visitors to view the different points of interest, including the wonderful electric plant, where electricity is generated for nearly the entire State of New York. After sight-seeing of the Falls is over, we will take the electric cars for a short distance above the Falls, where our boat will be waiting to bring us back to Buffalo. On board the boat a lunch will be served to what we expect will be a very hungry crowd, and we are making preparations to satisfy them. A theatre party is also talked of for the members and possibly a drive around the town.

"Arrangements have also been made with the proprietors of the Genesee House, for the usual banquet on the night of the last day of the meeting. The proprietors of the Genesee Hotel have tendered the use of the colonial parlors, for the Association meeting, and also two or three other reception parlors for the use of the meeting of the Association of Veterinary Faculties, Comitia Minora, and other committee meetings. Should the colonial parlor prove too small for the association meeting (and we hope it will), the Governors and Faculty of the Buffalo University have offered us the use of their lecture room.

"This is merely an outline of the work of the committee of arrangements as far as they have gone. Another meeting is called for on the 30th inst., and meetings will be held every two weeks, and every effort will be made to make the meetings of the U. S. V. M. Association, also the N. Y. S. V. M. Society, and Ohio State Veterinary Medical Society, this year a grand success. It is hoped and believed that the first week in September next will see gathered together the largest number of prominent and well-known veterinarians from all parts of the United States and Canada that ever met in a convention room at any one time.

"N. P. HINKLEY,
Chairman U. S. Committee of Arrangements.
"LESTER E. WILLYOUNG,
Chairman N. Y. S. Committee of Arrangements."

Of less importance simply because it is overshadowed by the prominence of the National Association is the annual meeting of the New York State Veterinary Medical Society, which convenes on September 4th and remains in session until the evening of the 5th, with headquarters at the Genesee Hotel. This society will have, besides its regular order of business, several very important and interesting reports to listen to and discuss, pertaining to present legislation, the State Examining Board, Veterinary Sanitation in New York State and its several cities and villages, and other important veterinary matters, beside the reading of several interesting papers by well-known members of the society. Up to the present time the following veterinarians have signified their intention of preparing papers to be read before this society:

Thomas Giffin, M. R. C. V. S., New York City, "Veterinary Education."

G. H. Berns, D. V. S., Brooklyn, "Navicular Disease in Horses."

J. P. Thompson, V. S., Niagara Falls, "Jurisprudence."

Wilson Huff, V. S., Rome, "Bacteria in Milk."

C. D. Morris, Pawling, "Veterinarians as Sanitarians."

Other papers are expected from some of the well-known members who have failed to send in the subject of their papers. The local committee of this society are also making endeavors to secure a number of animals suffering from different surgical ailments in order that operations may be performed before the society by some of the well-known operators in New York State.

The REVIEW is in receipt of the following letter from Secretary Martin, of the local committee, and as it concerns a very important part of the local arrangements we trust all will respond to it.

"BUFFALO, July 10, 1896.

"*Editors American Veterinary Review:*

"DEAR SIRS:—The local committee of Buffalo, of which Dr. Edward McLeod is chairman and myself secretary, are arranging for the entertainment of the veterinarians who shall attend the U. S. V. M. A. meeting, to be held here on the 1st, 2d, and 3d of September. This committee desire to know the number who will attend. We will consider it a favor if you will insert a notice of the meeting in your journal, and request that those who expect to be here at that time notify the secretary. Very respectfully,

"H. D. MARTIN, *Secretary.*"

We have been unable to get the details of the meeting of the Ohio State Veterinary Medical Society, and we rather fear that the arrangements are not very complete. That does not mean, however, that a very large body of Buckeye veterinarians will not move upon Buffalo at the appointed time, as there will be plenty to interest them outside of their own meeting. Secretary Gribble writes us that the general tenor among their members is that they want to be listeners. We urge upon the members of that society the importance of the occasion, and strongly advise them to have the details of their own meeting as complete as possible, irrespective of the other societies.

The Association of Veterinary Faculties of North America, of which that scholarly veterinarian, Prof. Olof Schwarzkoppf, is secretary, will hold their annual meeting during this week, and will be addressed by the representatives from most of the colleges of the country upon subjects of vital importance to them, while they will be justified in indulging in felicities over the wonderful work for the better that has been wrought largely through their instrumentality in the colleges of the country both in the period of attendance and in the character of the knowledge imparted.

With such an array of interesting events awaiting the membership of these associations, is it any wonder that the REVIEW has predicted the largest gathering of veterinarians ever assembled at one point in the history of the world?

A GOVERNMENT BIOLOGICAL SURVEY.—The Agricultural Department at Washington has instituted a new bureau bearing the above name, and which begins operations the first of this month. The Biological Survey will be charged with the determination of the animal and vegetable belts, just as the Geological Survey determines the mineral belts. It is expected that its results will be a great economic advantage to our agriculturists, horticulturists, stock-raisers, and others engaged in the various animal and vegetable industries. Charts will be distributed showing the exact portions of each State where certain animals and vegetables will thrive best, or can be raised to advantage. These charts are to be supplemented by a catalogue containing every land animal and vegetable in the world, and indicating the areas in which they may be raised or cultivated by Americans.

MASSACHUSETTS CATTLE COMMISSION.—The State legislature of Massachusetts has voted a larger appropriation to the Cattle Commission than they had last year, it being raised to $300,000, while formerly it was but $250,000. The work they have been doing in the systematic inspection of the herds of the Commonwealth, and the extensive inauguration of the tuberculin test, is therefore heartily endorsed by the people, and it is really a vote of confidence. In the meantime, the profession at large will watch with interest the results of the system which is being given such a thorough test by the Bay State.

DURING July and August veterinary medical societies take a vacation. There is in consequence a dearth of news in the journals. Our contributors will find this an excellent time to send in reports of interesting cases occurring in their practice. The REVIEW always welcomes them as being very instructive practically and helpful to the general practitioner.

WE call attention to the advertisement of the New York State Veterinary College (in connection with Cornell University), which will be found on the advertising pages. It will begin instruction on September 21st, and offers many inducements for young men seeking an education in the science of veterinary medicine.

ORIGINAL ARTICLES.

[WRITTEN SPECIALLY FOR THE AMERICAN VETERINARY REVIEW.]

THE SOURCES OF SOUND AND HEALTHFUL ANIMAL FOOD.

BY A. S. HEATH, M.D., V.S., BROOKLYN, N. Y.

The essential requisites of all animal products suitable for human consumption are numerous and indispensable. They consist in the perfect health of the animal from which they are obtained; sanitary environment, pure air, pure water, sound food, daily exercise in the open day, ample protection from storm, cold, and wet, and absolute cleanliness of animal and surroundings,—and all these in full complement.

No unhealthy animal can yield a sound product, and no product can be too good for human consumption or for profitable production. The best only is marketable and profitable. Though the best product costs more to produce, it yields a relatively larger profit, plus an invaluable reputation for the producer, and reputation is an immense capital. Sound food is indispensable. So also is quality and quantity of palatable food. Though I have great respect for a "well-balanced ration," I in nowise despise a goodly degree of the animal's choice of food. Food that is distasteful is seldom easy of digestion. The human stomach ejects food that the taste loathes, and especially when the system is impaired by illness, or made irritable by satiety. This holds almost equally true of cows made too artificial by pampering, or impaired constitution from too long inbreeding, or lack of proper selection of progenitors, or from any other cause impairing health and vigor. The French have taken advantage of this salutary effect of the potability of foods for the quick fattening of cattle. They take a variety of foods, and after cleaning and airing the stables and watering, permit the animals to select the food preferred, kindly giving it from the hand as long as the animal shows a special preference for the first selected. By this method the animal takes more food of each kind selected from time to time, does not soil or mix the kinds of foods, and returns with avidity to those kinds previously selected with renewed eagerness. And when satisfied, a lock of hay is placed before it, the place closed, and the animal luxuriates upon it, and leisurely chews the cud of contentment during the quiet performance of the complicated functions of digestion and assimilation. Thus, twice daily is this gentle and perfect process carried on to the fattening, mellowing and ripening of beef animals in the shortest time, and of those at maturity of life, after having been made more than self-supporting for six or eight years, and producing the best quality and greatest quantity of nutritious beef. Similar methods are resorted to in feeding other animals. The veal of the *Halles Centrales* of Paris is of superlative excellence. Large, pink-fleshed, white-fatted and luscious. Sweet milk and fresh eggs have perfected its quality, and French cooking makes it the most appetizing of food.

It has often been said that a cow is a machine to manufacture fodder and grain into milk. But, though far lower in the scale of creation than mankind, yet, like man, she is endowed with vitality, that sublime principle pervading every organ, function and tissue; she has the senses in great perfection; she is appreciative of kindness, and under it she elaborates better and larger products. And as object lessons are universally appreciated, were it compatible with the general methods of your valuable journal, I could more clearly illustrate these articles on a subject so deeply interesting and so essential to the health and well-being of the public. But under the circumstances I must confine myself to less perfect pen-pictures of animals bred and kept for human food products.

Economy demands that our domestic animals should be, as far as possible, self-supporting at the earliest period of their lives. Suckling pigs, lambs, and calves come to market early, and at a minimum of expense. But to be healthful and of the best quality, yielding most profit, they must be properly and quickly fed and fattened up to the greatest weight possible. This holds equally true of poultry and eggs. Neither can milk or its allied products of cream, butter and cheese, be produced from other than animals of sound health, fed on nutritious food, having perfect sanitary environment. Sunshine, pure air, and pure water are as essential to animals and good animal products, as sunshine and shower are essential to the rich green pastures of June. And nowhere, and never can such perfect pailfuls of foaming milk, and such bowls of golden butter be produced outside of just such natural conditions.

Milk and cream must be home-made. They soon deteriorate, and must be produced near the centres of population, as transportation over long distances injures their perfection and deteriorates their flavors and food values.

This objection also applies to young food animals, and fowls and eggs. And even to mature meat animals. For as soon as the change from the quiet and content inseparable from fattening for market, to the disturbance, worry, distress, privation of proper food, water, cleanliness and pure and abundant air, rapid impairment of quality and loss of quantity ensues. Stale live animals, like stale vegetables and fish, lack flavor, as well as nutritive excellence.

Too much of the sound health from out-door life and the fresh, rich grasses and grains fed to our beef and mutton producing animals, are impaired by improper feeding and care in long railroad journeys, and lack of time for rest and recuperation in our city stockyards. The contusions and bruises incident to transportation should have time to heal before slaughter, or the keen eye of the purchaser of such meat will give the market price the black-eye, just to the extent of the dark spots on the carcasses. As we pay prime prices for meat we should also receive prime meat. *Indigestion too often hinges on a suspicion.*

As the AMERICAN VETERINARY REVIEW is eminently the guardian of the public health, it should reach the people whose welfare it subserves. It promotes the health of the community, and I therefore purpose to speak with emphasis rather than dilute what I have to say with obscure technicalities.

Food is one of the essential demands of life, of man, of animals and of plants.

> "And homeless near a thousand homes I stood,
> And near a thousand tables pined and wanted food."

(*To be continued.*)

TUBERCULOSIS.

By Dr. U. B. McCurdy, Topeka, Kansas.

A Paper read before the Missouri Valley Veterinary Association.

In scanning the report of the New York Board of Health we are brought to a realization of the great ravages of the most insidious, silent and deadly disease known to man and beasts. For the four weeks beginning January 18, 1896, and ending February 8th, the report shows :

Deaths from tuberculosis, ...	464
Deaths from typhoid fever, scarlet fever, cerebro-spinal meningitis, measles, diphtheria, and smallpox, .	365

showing 99 more deaths from tuberculosis than from the other six diseases combined. In one year in New York City 14 per cent. of the 5,490 deaths were a result of tuberculosis.

Pleuro-pneumonia, the most dreaded of contagious diseases, is of a very rapid and fatal form, developing in from three to six weeks from time of exposure, acute cases proving fatal in from ten to twelve days from the first appearance of the disease. When the epidemic has run its course it can readily and positively be seen that the disease has been stamped out.

Tuberculosis, which is a slow and chronic disease, differs principally in the degree of its activity, being, generally, of much longer duration, many cases proving harmless. Frequently in the body of some apparently healthy animal it is almost impossible to detect dormant germs, which are innocuous until by some debilitating disease the animal's vitality is lowered to such a degree that it is unable to further resist the otherwise harmless bacilli.

Tuberculosis is due to a specific germ known as bacillus tuberculosis, which is the exciting cause in all cases, and the disease is contracted by inhalation, ingestion, and circulation, though more commonly by ingestion and inhalation. Local affections of the organs through which the germs pass are usually the primary lesions presented and show different phases in different animals. It is of frequent occurrence that the organ giving passage to the germs remains unaltered, and that the morbid process starts in the neighboring ganglions (viz., bronchial and mesenteric) and later extends to the pleura and peritoneum. At the point where the bacilli are arrested they first determine a formation of miliary tubercles, which, by gathering, form pyramid-like masses. Sometimes these neoformations remain as localized inflammatory centres or become calcified; at other times they undergo a caseous degeneration in fibrous transformation; in some instances they separate, become ulcerous and produce cavities. When they become isolated by connective-tissue prolification from the surrounding parenchyma, or if they undergo complete calcification, the tubercles may heal. In the majority of cases the process becomes general. It may take place:

1. *By Means of Lymphatics.*—The ganglions which are next to the primary tubercles are first involved,—in pulmonary tuberculosis the bronchial and mediastinal ganglions are involved; in intestinal tuberculosis the mesenteric ganglions, the spleen, and the liver.

2. *By Continuity or Contiguity of Tissue.*—This is a mode of propagation which is specially observed in mucous membranes. A pulmonary tuberculous centre which opens into the bronchi may be determined successively tuberculosis of the bronchial, tracheal, and laryngeal mucous membrane, and deglutition of tuberculous matter may produce tuberculosis of the

stomach and intestines. In tuberculosis of the kidneys or genital glands the process may extend to the genito-urinary mucous membrane.

3. *By Means of Circulation.*—The bacilli may be disseminated through the whole system when the destruction of a tuberculous centre leads to perforation of a vein, or when the process directly invades the vascular walls (W. L. Z.) Another means by which the blood becomes contaminated with the tuberculous germs is by inoculation of the subcutaneous tissue. This is mostly the experimental way, and will be treated more fully under the head of tuberculin.

In speaking more particularly of the predisposing causes of tuberculosis I will first consider

Heredity.—Among the wild herds of the plains, tuberculosis is practically unknown, while among the cows of closely-confined dairy herds it is quite common. There is no proof of the direct inheritance of the disease, other than the transmission of weakened constitutions and lowered vitality: in other words, the transmission of hereditary susceptibility.

In-and-in Breeding has the debilitating effect that is so congenial to the ever-invading germ. This is readily demonstrated by an examination of the herds of cattle most susceptible to the disease, and it is found that this is the in-bred variety. On the contrary, the grade stock, or cross between some thoroughbred and common stock, is less susceptible.

Lack of Ventilation.—Unsanitary conditions, as a matter of fact, are conducive to the spread and development of the disease. Close stabling, insufficient amount of air and sunlight, damp, underground stables are all a great source of danger, and I believe this to be one reason why our Western herds are less contaminated than those of the East.

Breeding Too Young.—Over-stimulation for excessive milk-production, lack of exercise, with many other unnatural conditions which stock undergo, lead indirectly to the contraction of the disease. It is generally conceded that all animals are, at some time in their life, exposed to the germ and a large percentage of them possess a greater or lesser number of the bacilli in their system. Many have constitutions and sufficient vitality with which they can resist the disease. But the weakened, hereditarily-afflicted ones contract the disease, disseminate the germs promiscuously during their short lives and finally succumb to the inevitable.

Relation to Public Health.—It is generally accepted that tuberculosis is directly communicable from man to beast and *vice versa.* The micro-organism is identical. Ollivier and Boutet record an outbreak of tuberculosis in a boarding school. Cows were kept for the use of the establishment. It was found that one of the cows supplying the milk during a certain period was tuberculous, and during that time six of the children contracted tuberculosis. Strang gives another case. A boy aged five and born of healthy parents died from advanced tuberculosis of the mesenteric ganglia and miliary tuberculosis of the lungs. It was ascertained that he had been in the habit of drinking warm, uncooked milk from a cow suffering from tuberculosis, as was proven by post-mortem. Dr. Gosse, of Geneva, records another. His daughter was, at the age of sixteen, a strong, healthy girl, and there was no trace of tuberculosis in the family. About ten months before her death she began to manifest signs of a mysterious illness, which caused gradual wasting, and ultimately the patient died at the age of seventeen. At the autopsy it was found that the poor girl had suffered from intestinal and mesenteric tuberculosis. It was afterward remembered that she was in the habit, when spending the Sundays on a small estate, where cows were kept, of drinking warm milk almost direct from the cows. In consequence the cows were subjected to an examination and four out of the five were found tuberculous, and two of these had tuberculous udders. Another strong proof of the transmission of the disease through the consumption of meats: Dr. Treon describes the animals furnished to the Northwest Indians as being poor, emaciated and diseased. The Indians eat the entire carcass, including liver, tallow, and entrails, fresh and without cooking. The animals are eaten though they have died of tuberculosis, and 50 per cent. of the deaths in the Reservation are from tuberculosis. Dr. Peters reports a number of positive cases of direct infection and death from tuberculosis during the performance of his duties as chief inspector of cattle for the New York Board of Health.

Have not these tests given satisfactory proof that the cases were directly traceable to the consumption of meat and milk? The consumption of a great amount of milk from many dairy herds means the consumption of many millions of germs. Look at the ordinary milker with his head against the cow's flank and notice the dropping of all kinds of filth into the milk bucket and you can readily see how the milk becomes contaminated with all kinds of germ life, to say nothing of the germs that come from a tuberculous udder, of which there are many.

In the excellent article by Dr. Parker in the April *Journal*, he quotes the following experiment from Dr. Potts: "The cows were thoroughly cleansed with a solution of bichloride, the milkers being dressed in clean suits and the milk received into sterilized tubes. Before taking these precautions, in all of the four cows used in the experiment the very first milk drawn showed the following respective number of colonies of bacteria:

A.	B.	C.	D.
141	167	19	53

In the remaining milk, drawn after these precautions were taken, there was no trace of bacteria. Thus, it would seem, that as a matter of practical importance, it would be well to strip the teat once or twice before milking into a sterilized pail. In this way the micro-organisms which evidently find their way into the milk duct would be washed out. It also emphasizes the importance of cleanly surroundings for cattle."

Where cattle are few, or absent, consumption is relatively less in man. "In Norway, Sweden, Lapland, and Finland, where reindeer constitute the chief farm stock; about Hudson Bay and in the islands of the Pacific, where no cattle exist; and in the Scottish Hebrides, Iceland and Newfoundland, where cattle are few, tuberculosis is less prevalent in man. In Algiers (a resort for consumptives) the cattle are few and live apart from the cities, and tuberculosis does not increase among the natives. In Italy, where the cattle are housed, tuberculosis has become the scourge of man and beast. In Australia (the great resort for English consumptives) the disease, formerly unknown among cattle, has become exceedingly prevalent, and the same is becoming alarmingly true of our own Minnesota, formerly so lauded as a favorable resort for consumptives." These are extreme examples, it is true, in which the transmission and fostering of the disease by cattle are extended and aggravated by overcrowding and every imaginable unhygienic condition among the human consumers.

The rare cases of fœtal organic tuberculosis are explained by direct infection which is of internal origin (the bacilli may traverse the fœtal envelopes ; a demonstration of this fact has been given by experiments on guinea-pigs and rabbits), or by the presence of bacilli in the sperm or ovum at the time of fecundation.

A careful study of the subject of tuberculosis brings us to a realization of the work before us and the benefit to be reaped by the public, providing the disease among the dairy herds of the country were brought under control. Stamping out pleuro-pneumonia contagiosa and contagious aphtha has cost thousands of dollars, but no human lives. Tuberculosis has cost many thousand lives, and, comparatively speaking, but little money.

The subject of eradication is a most serious one, presenting many points for consideration. We must consider the rights of the property owner, the rights of the people, the prejudice to overcome, the many uninformed who must be educated to a realization of the danger, and the best possible means of avoiding it. The interest of the stock-owner must be most seriously considered. No dairyman of ordinary intelligence will object to a thoroughly intelligent examination of his herd. Massachusetts was one of the first states to have a regular corps of inspectors, and a glance at the caste will convince one that there is still room for improvement. Of 364 inspectors, 58 are veterinary surgeons, 136 farmers, 10 cattle dealers, 20 M.D.s, 8 butchers, and the remaining 62, grocers, painters, provision dealers, wood and coal dealers.

The use of *Tuberculin* in the hands of competent men has given us an almost infallible test. Koch's tuberculin is a glycerine extract of pure culture of tuberculous bacilli. The lymph is a limpid, brownish liquid, which is inactive when introduced into the digestive system, but whose reaction is considerable when injected subcutaneously or intravenously. Its degree of reaction varies with the condition of the animal, there being none in perfectly healthy ones and very marked in tuberculous ones. It possesses a very marked influence upon tubercular alterations. Under its influence the peri-tubercular tissue becomes inflamed and the seat of an exudation or abundant leucocytic infiltration. In general successive injections produce reactions which are in turn less violent. The results of the exhaustive experiments by the many scientists who have been laboring with this subject have not been satisfactory from a curative standpoint. As a diagnostic agent it is indispensable to the advanced veterinarian. With it one can make a positive test on a dairy herd, and one which will on post-mortem prove correct. By this means the Board of Health of various cities can control the sale of milk to the dairy having sound cattle. The veterinarian comes in for his share of the responsibility for public health, and should not falter in his duty.

In our State we must have some legislation on the subject of tuberculosis before such can be accomplished. We must have a veterinarian as a member of the State Board of Health and more thorough inspection of the stock of the State. Undoubtedly you can recall some afflicted herd in your locality; nor are means taken for the eradication of the disease. What is the result? A dissemination of the disease, productive of tuberculously-disposed stock and endangerment of the present and future generations of both man and beast.

This is one of the most important questions of the present day, and if by any amount of agitation we can have any influence upon proper legislation let us bestir ourselves, and in time eradicate the worst disease common to man and beast.

INFECTIOUS PNEUMONIA.

By F. C. Wilkinson, D. V. S.

A Paper read before the New Hampshire Veterinary Medical Association.

Infectious pneumonia is now generally regarded by the leading clinical authorities and pathologists, in this country and in Europe, as a specific infectious disease.

Green, in his article on "Inflammation of the Lungs," in Quain's Dictionary of Medicine, says: "It is maintained by a great number of observers that, like the specific fevers, it is due to a specific cause."

Pneumonia, whilst differing from these fevers in not being contagious, resembles them in the typical character of its clinical phenomena, and to a less extent of its local lesion. The changes in the lung occurring in pneumonia cannot be induced by artificial injury of the organ, and it must therefore be admitted that there is something special in the inflammatory process. This "something special" has been demonstrated by researches, and it is the object of this paper to give you, gentlemen, a slight historical account of the development of knowledge which has been obtained, in reference to this specific infectious agent, and of the experimental evidence upon which the claim is founded that the micro-organism referred to bears an etiological relation to the disease in question. Evidently, if pneumonia is a specific infectious disease, the micro-organism which causes it is widely distributed and the development of an attack depends rather upon secondary predisposing and exciting causes than upon the accidental introduction of the specific agent. It cannot be maintained that the disease, as a general rule, is transmitted from animal to animal, by personal contagion. Clinical experience is entirely opposed to this view, although there is ample evidence that it may occur as an epidemic among animals which are exposed to the same conditions, as in stables where a large number of horses are kept. Thus, at the barracks in Berlin, in Germany, in the year 1890, an epidemic of infections pneumonia occurred in which 79 horses were attacked, and again in the same barracks in 1892, a similar epidemic of infectious pneumonia broke out in which 55 horses were attacked; there are also numerous records of epidemics in different sections of Europe during the years 1893 and 1894. Sometimes these outbreaks would occur in different countries at the same time. But it does not follow that these outbreaks bear any direct relation to each other. On the contrary, everything indicates that the infectious agent induces these outbreaks at various intervals. Without stopping to discuss further the facts relating to the epidemic prevalence of the disease under consideration, I will call attention to the well-established fact that pneumonia prevails over a wide area of the inhabited surface of the globe; we must therefore conclude, that if pneumonia is a specific infectious disease, the micro-organism which causes it is widely distributed. As a matter of fact, the pathogenic micrococcus which, from the evidence now at hand, appears to be the specific etiological agent in acute infectious pneumonia, has been found in the buccal secretions of healthy animals in various parts of the world. This statement may appear at the outset to make the view that the micrococcus in question is the cause of infectious pneumonia quite untenable. For, it may be asked, how is it that the animals who have this micro-organism in their buccal secretions escape an attack of pneumonia. In the present state of our knowledge, this question no longer presents any serious difficulties. We know, for example, that the pus-organism staphylococcus pyogenes amens, albus and citreus are very frequently found in the buccal secretions and on the surface of the body of healthy animals, and that, although these micrococci are recognized as the cause of all sorts of acute abscesses, they only give rise to the formation of such abscesses under certain special conditions relating to the general health of the animal. It is well known that the tetanus bacillus is found in rich loam in various parts of the globe, and that the hands of farmers and gardeners are constantly soiled with such earth without their contracting tetanus. This bacillus was discovered by Nicolaier. In the year 1890, Friedlander communicated to the Medical Society of Berlin the results of his experiments with his pneumococcus; the following are the results of one of his experiments: The pneumococci were mixed with distilled water, and injected through the thoracic walls into the lungs of eleven guinea-pigs, six of said guinea-pigs died, and post-mortem being made on their bodies, the lesions of pneumonia were found. Gamelia obtained the following results from inoculations into the blood of sheep and dogs. He inoculated four sheep and twelve dogs with this coccus, and the following is the results of his experiments: Three dogs died in nine days and one sheep in fifteen days. On making post-mortem examinations on their bodies, it was found that they had passed through various stages of red and grey hepatization of the lungs. The experiments of Gamelia go far toward settling the question in a definite manner and considered in connection with those of Talmon and Salvioli, and the extended researches of Frankel, Weichselbaum and Netter, leave lttle doubt that this is the true infectious agent in acute lobar pneumonia.

Morphology.—Short rods with rounded ends, united in pairs or chains of 4, and surrounded by a transparent capsule, stains readily with aniline colors. In preparations from the blood of an inoculated animal stained by an aniline color, the capsule appears as an unstained envelope surrounding the stained cell. A slide cultivation may be prepared as follows: Gelatinized meat infusion, which has been rendered sterile by heat, is poured on a sterilized glass slide, and allowed to solidify. A sterilized platinum wire is then dipped into a growth of the organism which is to be examined, and drawn rapidly over the surface of the preparation on the slide. The bacteria are sown at intervals along the track of the wire, and as they grow, form characteristic colonies, and may be observed in process of growth under the higher powers of the microscope.

Pathology and Morbid Anatomy.—The process is characterized by inflammatory hyperæmia of the lung tissue, and also by the exudation of coagulable material into the pulmonary tissue. This process consists of three stages: engorgement, red and grey hepatization. In the state of engorgement we have the following changes take place: The organ is of a dark red color, its specific gravity and weight are increased, its elasticity is diminished, and it does not crepitate on pressure; if cut into, its surface yields a reddish, frothy, tenacious liquid. In the second stage we have migrations of blood corpuscles into the pulmonary tissue, the lung is much heavier than in the preceding stage, it is also increased in size, the pleura over the inflamed lobe is covered with lymph and sometimes it is bulged out. The lung is quite solid, sinks in water, and cannot be inflated, does not crepitate under the fingers, and is friable, breaks down with a soft, granular fracture. Third stage.—Toward the base of the inferior regions of the lungs may be found zones of hepatization, on section they show a darkish red color, with a few greyish islands; these islands vary in size, some being as large as an orange, and others not larger than a small marble. When of recent origin, they are surrounded by a white zone formed by leucocytes. On their surface, cavities are found ranging in size, these cavities contain necrosed pulmonary tissue. Finally we find purulent centres containing a whitish pus mixed with gangrenous pulmonary tissue. As a general thing, the appearance of the lungs in cases of death in infectious pneumonia are uniform, viz., almost complied disorganization of each lung with numerous and separate abscesses and often with gangrene of parts of the lung affected. The blood in the left cavities of the heart is generally dark and thin. Symptoms: First there is rigors, with a staring coat, disturbance of animal heat, with coldness of skin and extremities, all connected with perturbed nutrition. There is also languor, capricious appetite, visible mucous membranes are of a dull, rusty color, pulsation of the submaxillary artery is increased in frequency, with the vessel feeling somewhat full. The temperature generally runs as high as 105 or 106 Fahr.

When cough exists, which is not always the case, at first it is dry, after some time it becomes less so from the exudation which is taking place in the pulmonic structures. Fœtor of the breath denotes that gangrene and disintegration of lung tissue has occurred. During the height of the fever the urinary secretion is lessened in amount and altered in composition. There is excess of urea, caused by active tissue-change; there is a diminution of the salines, more particularly of the chloride of sodium. We have some physical signs that are deserving of careful observation and study, seeing that, apart from the assistance which they render us, in the differing changes of structure, might pass unappreciated. The sounds detected by auscultation, and elicited by percussion, are both of them in inflammation of the lung substance much modified. In the early stage of arterial irritation, auscultation is increased, with harsh respiratory murmur. This symptom is often followed by a weakening of the normal sound; when effusion takes place, the respiratory murmur is replaced by the true crepitant râle. Seeing that in pneumonia inflammation we do not often obtain anything more definite than a slight amount of dullness, or want of resonance even from other symptoms, we are very certain that the pulmonary tissue is much diseased.

Treatment.—The first thing to do is to pay strict attention to hygiene; abundance of fresh air is indispensable. The body should be clothed according to the season of the year, the limbs bandaged; it is well to envelop them in cotton batting before putting the bandages on. Feed anything that the animal will eat, but be sure and let the animal have all the fluids it will take; keep strength up by giving milk, beef teà, and such things. Let the animal inhale pure iodine vapor four or five times a day. My medical treatment is as follows: Whisky or good French brandy from the first, in dozes of 4 oz. (according to the size of the animal), three times a day, and once or twice during the night, with carbonate of ammonia, and also quinine electuaries. I do not use any counter-irritants, but have the animal's lungs bound around with hot cotton batting. I have the mouth washed out with acidulated water. During convalescence I administer iron arsenite, and in danger of heart failure I give digitalis.

The following results have been obtained in the biological laboratory at the University of Prague, to determine the germicidal and antiseptic value of the following agents, as tested upon this micrococcus: Alcohol, 24 per cent. sol., destroyed the micrococcus in 2 hours; boric acid, a saturated sol., failed to destroy it; carbolic acid, 1 per cent. sol., destroys the vit. in 2 hours; cupric sulphate, does not destroy; hydrochloric acid, 1 to 200, destroys in 2 hours; iodine aq. sol. with potassium iodine, destroys in 2 hours; mercuric chloride, 1 in 20,000, destroys it in 2 hours; nitric acid, 1 part in 400, destroys it in 4 hours; caustic potash, 2 per cent. sol., destroys it in 2 hours; potassium permanganate, 2 per cent. sol., destroys it in 2 hours; salicylic acid does not destroy; sulphuric acid, 1 part in 200, destroys.

PREVENTIVE INOCULATION AGAINST CONTAGIOUS PLEURO-PNEUMONIA.

By E. Biart, V. S., Lansing, Kansas.

Read before the Missouri Valley Veterinary Medical Association.

The first really scientific way of preventing the spread of contagious diseases among cattle was discovered by Dr. Willems of Hasselt (Belgium) as early as 1852, but was only brought into actual practice at a much later period.

It was established on a solid basis in his laboratory (the stables of a large distillery). The young doctor inoculated directly into the steer the contagious pleuro-pneumonic virus. Injected into the muscle or subcutaneous cellular tissues, the germ produced, in addition to the local tumor, phenomena of severe intoxication, from which the animal died in a very short time. The doctor then decided to inoculate the same virus at the lower extremity of the caudal appendix. There again the symptoms soon made their appearance after the insertion of the virus, but were of a mild type and the animal soon recovered. It was then proved that the animal had become insusceptible to the disease, for although being reinoculated with the virus several times, and in all regions of the body, there was no more sign of reaction, and the animal did not show any of the symptoms of the disease.

Dr. Willems first isolated the pleuro-pneumonic microbe and with the virus inoculated dogs, cats, horses and other animals without, in a single instance, producing the least inconvenience or symptoms of the disease; but when inoculated into cattle they would invariably show unmistakable signs of the disease. The disease, it was hereby proven, was consequently confined to the bovine race, not being communicable to other animals, nor even to man.

From this discovery it resulted that the opinion of scientists generally was: that the flesh of animals slaughtered in the first stage of the disease is not deleterious to the public health and may with perfect safety be used as food.

The virus was now discovered, but it was so violent that one drop of it injected under the skin would invariably cause death; and it appeared that such a severe poison could never become a beneficent vaccine.

The discoverer resumed his work, and when, after years of laborious researches, he found the best method of gathering the vaccine, the period of the disease when it is at the same time the most active and the most innocuous, and the place of the body where you can safely inoculate, he generously gave the government the benefit of his experiences without asking even a reward.

The Department of Agriculture now appointed a committee of noted veterinarians to investigate the preventive mode of treatment. They consequently repaired to the doctor's home, whose stables it was claimed were proof against the disease, he having inoculated all of the animals with the pleuro-pneumonic virus. The doctor being asked to have introduced in his stables and mixed with his own other cattle manifestly diseased and this in all stages of the malady, readily consented. And, although they were kept in constant and close proximity with one another for a great length of time, none of the inoculated cattle contracted the disease, nor did they show the least inconvenience. Switzerland and Italy almost immediately accepted the system, which afterwards proved effective and of great value. The practice is now generally adopted, and in those countries wherever employed contagious pleuro-pneumonia is almost a thing of the past. In Belgium, where the method originated, not a case has been discovered in the last two years.

Modus Operandi.—The serum which floats on the expressed fluids of diseased lungs in the first or second stages of the disease, and this must be as fresh as possible, is the right virus for inoculation.

The inoculation is done on the lateral faces of the extremity of the tail by two incisions about two inches apart. The skin is then raised and a small amount of the serum injected the same as vaccination in human practice. A few drops are sufficient.

The animal may then be turned out without further care; but when local inflammation becomes too intense, from 14 to 20 ounces of salts must be given. Generally, after ten days of incubation, seldom before, and at the point of inoculation, will be seen an inflammatory engorgement, hard, hot and very sensitive, very circumscribed, but, in exceptional cases, extending to a vast area of tissue, and this generally becomes gangrenous. In ordinary cases this engorgement gives rise to pustules, turning out serum and covered with scabs, which dry up, but often fall off and leave an ulcerous wound which finally heals completely without care.

In order to have a successful inoculation, these pustules should appear; or at least the inflammatory engorgement. Animals in whom no reaction has taken place should be reinoculated in from three to four weeks.

Inoculated animals must be closely watched from the fifth or sixth day after the operation, and as soon as tumefaction is seen at the seat of inoculation, a long deep incision should be made, and this should bleed freely and suppuration encouraged. If it is noticed that the end of the tail becomes gangrenous it should be amputated till in the sound portion, as this is the only way to stop the invading process of the disease.

By carefully carrying out the above instructions failures are almost impossible.

ADDRESS BY PROFESSOR LIAUTARD

TO THE GRADUATING CLASS OF THE AMERICAN VETERINARY COLLEGE.*

MR. PRESIDENT AND GENTLEMEN :—A committee appointed by your society has done me the honor to ask me to present you with a few remarks, some friendly advice as to your future conduct when, relieved from the benches of the lecture-room, you will find yourselves in possession of your diplomas, which will make you members of our noble profession. I accepted the compliment, made the promise ; allow me to-day to try to fulfil it.

The subject of *Deontology* is one which, unfortunately, is yet ignored in the curriculum of our American colleges, and, yet, how important it is. You can realize it, you who in a short time are going to enter upon the tribulations of veterinary practice, and who the day following your graduation will find yourselves in the presence of these important questions :

What obligations are now expected from me?

What duties have I to perform to deserve the honor bestowed upon me, and that my alma-mater has a right to expect from me as one of her alumni?

To tell you all and mark your line of conduct in your new life would certainly require longer time than I can ask of your attention ; but, if you will permit, I will only consider, and that briefly, three points which, I think, are of the utmost importance, and which have been my personal guides in a professional life which has lasted but a few years short of half a century.

---

* Read to class at the close of session 1895-96.

These three points are involved in the consideration of your duties towards your colleagues in the profession, of those towards your employers, and last, but not least, of those towards your patients.

1st. Duties towards your Colleagues.—You now have your degree, you have returned home among your relations, your friends; and, once rested from the excitement of the few last months of your student's life, you have selected a place to establish yourself.

The struggle for life has begun. How hard is it going to be?

Let me guard you against a feeling which is likely to overcome you almost at this time, at the start of your professional life—one of disappointment!

Many of us, when just leaving school have felt that the world was ours, that practice was going to fall on us at once, that because we had put up our shingles and distributed our cards and said "*Here we are*," there would be for us no rest, because of a rush of practice, of success, of wonderful recoveries, etc., etc. And, yet, weeks and weeks, months after months, have gone by before we could record our first case, before we could speak of our great success in relieving a patient, which had been left to our care after many others had already tried, but in vain, also, to cure.

Yes, perhaps even longer time than that may elapse before pecuniary success seems to smile on us to refund the great expense which our education had imposed on us or our family and friends.

Do not think that I am picturing a too sad prospect; but if you are prepared for it, how better shall you feel, if, on the contrary, success should come with your first efforts.

Let me say, do not be too hasty in the selection of the place where you will settle,—but be careful and watchful of your opportunities, and also of your personal facilities to adapt yourselves to circumstances. To some, a large city will be the place;

to others, a smaller town, with chances for growth, will do better. But, whichever it may be, do not change it until you have given it a fair trial. In either place, you may or may not find practitioners. If you are alone, your conduct is readily indicated, your road is straight, its smoothness will depend on you; but, if you find others already established, the task may prove more difficult.

In our days, and in the majority of our States, the distinction of *regulars* and *self-made men* no longer exists. The laws of registration which have been established have removed the distinction, and, therefore, you will meet with both on equal footing in many instances. Among the regulars you will meet with graduates of various schools. Remember that all of them are members of the veterinary profession, and as such deserve brotherly relations. You younger men must act towards the older as in all phases of society, of social life. The young owe respectful conduct towards the older, as long as they are themselves known as deserving of the same. To ignore those whose professional standing has kept them out of scientific professional relations and societies, is a lack of courtesy. Professional conduct is part of a gentleman's conduct. Above all, the veterinarian must be and must remain a gentleman.

Let me advise you to act in every instance towards your colleagues as you would expect them to act towards you. Do not think that their standing, their education, their graduation is superior or inferior to yours. The talent and knowledge of a man makes his standing, his reputation. Be indulgent rather than bombastic. Modesty is one of the qualities of the true talented man.

No matter in what location you may establish yourself, I would say: Look for the company of physicians; if possible, frequent the meetings of their societies, and, above all, join those of your own profession. The advantages that you will derive from contact with medical men, from the discussion that you will listen to at their meetings, from the renewal of friendship that you will once again seal at the gatherings of veterinarians, are too numerous for me to resume at this time; but I personally know that no one can express nor tell the amount of information, of encouragement, of pleasure, that can be reaped by attendance upon those gatherings. One must have benefited by them to know. And it will be only in later years that you will realize the good they have done you.

"*Union* is *Strength*" must be one of your mottoes for the balance of your professional lives. Veterinarians must be brethren; they all come from the same origin, their work is the same, their object in life, their national usefulness are the same.

In the ordinary relations of life, veterinarians must lend to each other mutual help and assistance, and, whenever the occasion presents itself, give to each other the marks of esteem and consideration that belong to gentlemen and to gentlemen of education. Perfidious actions are too sad to consider. Underrating services are below the respect that one owes to himself.

What must be the duties of the young veterinarian in case of consultation?—In all cases, besides the example of good manners, good education, politeness and mutual respect, the consulting veterinarian must treat his colleagues with all possible consideration. He must, above all, guard himself against the tendency to show superiority and to ridicule his colleague. Do not express your opinion too freely, do not give your advice nor express your ideas in public; and, far from it, I will say, with Thierry, in his excellent work on "Veterinary Deontology": "Give your strong approval of the treating veterinarian in all cases, as long as you can do it without offending your conscience and the trust placed in your hands." In a consultation veterinarians ought always avoid, in front of their client, scientific discussions; they are generally useless; they ought never hesitate to acknowledge an error.

Duties towards your Client.—These do not consist alone in the same obligations as those that are imposed between gentlemen, but specially of those that *trust* obliges on the part of the one who receives it towards he who grants it.

The person who comes to you asking your opinion in a case of purchase, the one who consults you as to the quality and soundness of an animal, places on you a trust, which must not be measured by the value of the animal, but whose greatness is doubly increased, as it is not only to the man, but to the professional man that it is given, and which on that account deserves the greatest care and most complete abnegation and disinterestedness. He gives you a fee, and that must be the only pecuniary reward you can anticipate. Commission, gratifications received from both hands, are breaches of trust that no respectable man can be guilty of, no matter what temptation may be presented.

The veterinarian owes to the public, to his client, his faithful attendance, and often he is obliged to ignore pleasure, sociable relations, family gatherings, and even much needed rest to answer the call to attend the duties of his profession. In these, it is due to the client that the greatest care should be used in the diagnosis and prognosis of a disease, and in deciding as to the treatment of a patient. Let me point out the danger that may arise from an error of diagnosis, when this is made in a hurry, without having exhausted all the means of inquiries into a disease that are at our disposition. Better hesitate in making a diagnosis than to make one which has to be recognized wrong in the following twenty-four hours. As to the prognosis, how careful one must be. Not to be too positive is sometimes a great advantage. Be careful of too much certainty in curing, or of too much positiveness in incurability. That both of these points are important, is too evident, and in duty to the client have to be carefully considered.

Do not lack confidence in your ability to cure, if you see that the chances are in favor of the patient, and if the expenses are not to surpass its value. But, again, you will do better to decline to undertake treating an animal which by his diseased condition tells you that after you are through with him, he will be just as valueless. You may at first lose something by this, but in the end, I personally can assure you, it pays best.

Duties towards your Patient.—If to the client you owe so much on account of the trust he places in you, to the patient, to the dumb suffering brute, you certainly owe no less, though your obligations are of a different nature.

In accepting the undertaking of the care of a sick or lame animal, in accepting the responsibility to allay his sufferings and to relieve him, to cure him, you sign a moral contract, which for its fulfilment will demand your attention, your energy, your intelligence, and in many instances send you back to your studies. To him you are in duty bound to give many of your thoughts; to carry him through his sickness, you have to use all the means that medical science has taught you to help in similar circumstances; to return him to his work, to his usefulness, to his owner, your services must always be ready by day and often by night.

But, besides these, there are others that perhaps are not your obligations as veterinarian, but become such as a gentleman, and are always to be expected from you. By them, I mean obligations of kindness. It is true that in many instances means of restraint, of punishment, are required to subdue an animal for operation, no matter how simple, even for the administration of medicines. Be kind to those patients, avoid unnecessary punishment; ignore, by all means, rough or brutal handling, and do not unnecessarily add to their miseries those that you would inflict upon them; do not forget that they are dumb, often powerless and, above all, that they are already suffering.

To be kind to all animals is a motto which belongs to all veterinarians, and which I am sure you will all remember.

REPORTS OF CASES.

POISONING BY PARIS GREEN.

By COLEMAN NOCKOLDS, M.D., V.S., Grand Rapids, Mich.

Subject, gray mare, Norman breed, 5 years old, good condition. Received message by telephone that above animal had eaten half pound of Paris green and was very uneasy. Dr. Conkey and myself started immediately and arrived at the farm about one hour and a half after the mare had eaten the poison.

The farmer's wife had placed one-half pound of Paris green, done up in a paper parcel, on the bed of a wagon, and the farmer had tied his horse to the wheel, with the result that he came back in time to take a small piece of the paper from the mare's mouth and wash out a small quantity of the poison. She had eaten everything else, even the string that was around the package. Owner had given about four quarts of milk, half pound of lard, and eight eggs.

We found animal very uneasy, pawing with front feet, champing jaws, frothing at mouth, and a wild anxious look about her eyes; temperature up one degree, pulse sixty, hurried respirations, evidently suffering from very great gastric irritation. We gave one-half pound carbonate of iron in a pint of linseed oil, and subcutaneously an injection of morphine, ten grains. In half an hour gave another injection of morphine, five grains, and then left, after ordering carbonate of iron, one-quarter of pound, in pint of oil, every hour. This was about ten A. M. At three P. M. again visited animal; pulse 120, respirations 100, no change in temperature. Administered morphine sulphate, five grains, subcutaneously, and fl. ext. belladonna, two drams, per orem, and repeated morphine injections about every half hour, also continuing to give oil, milk, eggs, etc., at different intervals, until twelve that night, when pain left the stomach and went to the intestines; animal persistently refused water and passed no fæces, but urinated freely during this time. At 1 A. M., pulse 120, very weak and indistinct, respirations 100, staggering gait, and animal acted as if blind. Administered belladonna and digitalis with intravenous injection of barium chloride, fifteen grains; in a few minutes patient passed a quantity of fæces, at 2 A. M. repeated above treatment; animal passed more fæces; which were highly colored by carbonate of iron. Animal commenced to get easier and drank some water. At 6 P. M. animal was much better; pulse 60, respirations 40. I then left, after ordering stimulants to be given, and asked owner to call me if animal got worse. Seven days later owner was in town, and said he had turned the mare out to pasture and she seemed in her usual health.

I used the carbonate of iron simply because it was the nearest preparation to the peroxide we could get at the time. Altogether there was administered to the patient two pounds carbonate of iron, one dram morphine sulphate, four quarts linseed oil, besides milk, eggs, etc.

A REMARKABLE CASE OF TETANUS.

By ROBERT ROBB, Terre Haute, Ind.

On Sunday, March 29, 1896, I was called out five miles in the country by a Mr. T. to arrest the hemorrhage from a steer's horn that had been dehorned the day before. After seeing my patient and doing all that was necessary, I was about to take my departure when a Mr. B., a neighbor who was present, spoke to me about something growing over his horse's eyes, and wanted me to remove them before they got too bad. I mentioned that I would drop in as I passed on my way home. The neighbors present took advantage of the occasion and went down to see the operation. After ordering the horse to be brought out of the stable I was greatly surprised to behold a case of tetanus before me of the opisthotonos form. I at once gave my diagnosis as tetanus, but this caused the owner and neighbors present to look amazed. Some began smiling as if I had made a very bad break, so to speak, but finally the owner accepted my opinion, after pointing out the pathognomonic symptoms. I then examined the horse carefully, but found nothing that I could give as a cause (traumatism), though I mentioned that the trouble could and does arise from other causes outside of wounds. This again was new, and caused some comment among those present. From the history I got the first symptom that was noticed of something being wrong was the day before while at work. Having the horse walked, stiffness was well marked, both in front and behind. The membrana nictitans were withdrawn from their sockets, trismus was slightly marked, and swallowing impaired, as he drank very slowly and sparingly. From this day he never partook of food. After ordering the horse to be removed where he could have quietude, he was placed in a nice roomy box stall. After seeing to his comfort that day I gave him a hypodermic injection of sulphate of atropia gr. i, and left instructions to let no one near him except the owner, and then I restricted him. On the following day pulse and temperature were normal, stiffness more marked. After making up a solution consisting of barb. aloes, ʒ ix, fl. ext. bellad., ʒ ii, pulv. zingiber., ℥ ss, tepid water q.s., Oii. I found it impossible to drench him, owing to trismus being more marked. I then decided to put him on solid ext. belladonna, placing ʒ ii, three times a day, on the incisors and tongue with a paddle of wood two feet long and one inch wide. This way of administering was very easy, at the same time the animal getting the effect of the drug. Enemas were given every morning of tepid water up till the twelfth day. On the third day there was no change, pulse and temperature normal, respirations 10, stiffness more marked in general, food and water refused. On the fourth day much the same, could see no change, neither one way nor another. From the fifth to the tenth day he seemed to be at a standstill, as it were, resting very easy under the circumstances, still everything refused. From the eleventh day till the fourteenth the pulse became weaker and irregular, though at times becoming steadier, respirations quickened. During this time he could move his lips very freely, the incisors being opened fully an inch wide. From the fifteenth to the twentieth he began to grow weaker, bracing himself more firmly on the ground, the legs apart and extended, the levators humeri stood out from their fellows like bars of iron, opisthotonos becoming worse, the eyes more fixed in their orbits, giving the face a haggard and worn expression. The animal now looked more like a wooden horse with the exception of his breathing. On the sixteenth day the owner by chance tried him with water and, to his surprise, he began to show indications of drinking, but so slow was he that one could scarcely see any change in the bucket that he drank from. After he had made several attempts he began to improve a little, so as to drink about two quarts at one time, taking about ten minutes to get this down. At times the power of deglutition seemed to be arrested as he would swallow small quantities apparently all right, then all of a sudden it would seem impossible for him to do so, though craving it. I then began to give him ℥i doses of sodæ hyposulphite, three times a day, in his water. This way of drinking was kept up till the afternoon of the twentieth day, when he refused to notice water. From the sixteenth up to the twentieth day, he stood game on his feet, bracing himself outstretched and whatever moving he did, which was very little, the feet were scarcely lifted up off the ground. It looked like a pity to keep an animal in this condition, but after his living out two weeks I was determined to try and keep life in as long as I could, even if my prognosis was unfavorable. On the afternoon of the twentieth day I went out as usual; found him worse than in the morning; breathing labored, pulse imperceptible, eyes sunken, stiff as a board; died last evening about 8:30.

This case, I think, is one of the exceptions, as far as duration is concerned, as I have never had the privilege of reading about a case like this, wherein an animal lived as long as he did, suffering from tetanus, without food or water. In my experience with tetanus heretofore, it either arises from traumatic or idiopathic causes. I could always see a change for the better from the eighth to the tenth day; if unfavorable death always took place from the third to the seventh day. I should like to hear through the REVIEW from my professional brethren or the Editors their opinions on this case. You will note that this horse nearly received one pound of belladonna during his entire sickness.

GUNSHOT WOUND IN A DOG—REMARKABLE RECOVERY.

By JAMES MCDONOUGH, D.V.S., Montclair, N. J.

The subject was a red setter, who on July 1st, was shot, the ball passing through the sub-lumbar region, leaving a small portion of the omentum protruding through the opening, which the animal proceeded to remove with his teeth, by pulling it out and biting it off. When I reached there, there were seven or eight pieces from one to two and one-half inches long, strewn about on the piazza, and what seemed to me to be the rest of the peritoneum (?) hanging outside, torn and bleeding. Well, I thought I would do something to earn my fee, so I clipped the hair, and washed the parts, using a creolin solution; then I clipped the ragged ends hanging from the peritoneum, made a large incision, and returned it to the abdominal cavity, thinking he would present a better appearance when dead. After dressing with iodoform, and bandaging the body, I prescribed aconite and belladonna, to be given in small and repeated doses. The next morning the dog seemed to have forgotten that he had been shot, and without any complications, other than a small abscess, made a grand recovery in fifteen days.

Of course, I expected peritonitis to set in, and the only theory that I can advance for its not doing so, is that there was not enough of the peritoneum left to make a case.

FOUR CASES OF OPEN JOINT.

By W. H. GILBERT, V. S., Leesburg, Ohio.

I was called to see a ten-year-old horse that had fallen down on some small stones that had been put on a road and cut two-thirds across the left knee, through the capsular ligament in one place, the synovial fluid coming out of the wound, the knee swelled, sweating on the shoulders. He was in so much pain that I could not tell anything about his pulse nor respiration. I gave him nitrous ether ℥ ii, cleansed the wound, put a splint on the back part of the leg, provided a large pad of absorbent cotton, and long roller bandage; then applied equal parts of powdered alumen and amylum on the wound, and covered the pad of cotton with a liberal quantity of the same. Having the pad held against the wound by an assistant I applied the bandage rather snugly. I removed this carefully eyery twenty-four hours, for one week, and by this time the synovia had ceased running, when I applied boracic acid three times a day, leaving the bandage off, but keeping the splint bound on the back part of the leg tight enough so that the horse could not bend his knee. He was tied short so that he could not get at it. In two months it was healed over. The owner hauled two loads of corn with him and then turned him out and he got down to roll, but immediately arose, with the same knee torn clear across into the bone. This horse died in four days.

I have treated three horses with open joints since with success, but when not at work I would have stout splints buckled on, and keep them on for five months.

EMBRYOTOMY—AMPUTATION OF FORE LIMBS AND THORACIC EVISCERATION.

By L. D. Ives, D. V. S., Wallingford, Conn.

On June 5th I was called to see a cow which was in labor. On arriving at pasture where she was lying, found the patient to be a large Holstein cow 9 years old.

Condition.—The forelegs of fœtus were protruding from the vulva of mother and in a state of putrefaction; the head was bent back on the right side and delivery was impossible in this condition.

History.—Owner had found her in that condition the night previous, and he, with the assistance of two other men, had applied severe traction a number of times, which much complicated the case.

On examination found an enormous fœtus too large for natural birth to take place; tried repulsion, but was impossible, so decided to amputate limbs, which was done. This, however, proved not enough, so removed the viscera through a hole in thorax. Traction was now applied to head, and fœtus delivered without further difficulty.

The patient was very weak as a result of the operation and prolonged labor, but has made a rapid recovery, and is now doing nicely. Mammitis complicated the case, but yielded easily to Prof. Ryder's treatment.

SOME CLINICAL OBSERVATIONS.

We take pleasure in continuing the series of cases which Prof. Peuch published in the *Journal of the Lyon School*, and which are collected from his clinics. It may induce the members of the medical staff of our American veterinary colleges to follow his example.—[EDITOR.]

ARTICULAR OR TENDINOUS LESIONS OF THE HOCK.—Under this title we desire to speak of chronic synovitis, tibio-astragalian, or tarsal, known under the name of *articular* and *tendinous thorough-pins*. These lesions are frequent in horses, and it may be useful to expose the principal means of treatment that we use, so much so that we have obtained with them excellent results. These modes of treatment are the cauterization with deep and penetrating points, or again puncture, followed by the injection of iodine, according as the case is a dropsy of the tibio-astragalian, articular, or one of the tendinous tarsal, synovial.

First. *Firing in Fine and Penetrating Points.*—We always applied this mode of treatment when the articular thorough-pin produces lameness. We use a fine point about three-quarters to one inch long, according to the thickness and the induration of the walls. We introduce it, when heated to cherry-red, two or three times in each point, seldom more. And on thick-skinned horses, we immediately cover the cauterized region with a mixture, equal parts, of blister ointment and biniodide of mercury pomatum (to the quarter). We omit this application in warm weather. Thus applied, firing gives rise to an ordinary synovial escape, in small quantity. There are at the surface of the points made by the cautery, little drops of synovia. This escape lasts for the day following the operation, but stops after one or two days. Should it last longer, it indicates that the cautery used was too thick, or that too many applications have been made. In such cases suppurative arthritis occurs, which is generally fatal. But this dangerous complication can certainly be prevented by the use of fine cauteries. Our long experience justifies us in this assertion. We may also observe that this mode of cauterization produces therapeutical effects very satisfactory. Often a single application of this deep firing cures entirely horses lamed by indurated articular thorough-pins, leaving afterwards but little cicatrices of the punctures, scarcely visible and often entirely concealed by the hairs. In some cases, when applied on articular thorough-pins, with very thick, indurated, partially ossified walls, in heavy draught horses used to a work requiring powerful efforts, a first application of the firing may not be sufficient. However, even in these rebellious cases, needle cauterization always proves advantageous, it relieves the lameness to some degree.

Second. *Puncture and Iodine Injection.*—This is used only for the tarsal tendinous thorough-pin. It is not always sure, but often gives good results. For instance, we find in our records, kept by our students, eight cases operated upon in that way.* Among these, six were followed by a complete resolution of the tendinous synovial tumor, leaving no trace whatever of the treatment, in a lapse of times varying between two and six months; one failed, and another was only partly successful. We record here only these two last cases.

Observation I.—A sixteen months old filly is brought to our clinic with a tarsal thorough-pin, which disfigures her and depreciates her value. The tumor occupies the hollow of the hock, inside and outside, and extends downwards to 3 or 4 centimeters of the chestnut; it is soft, fluctuating and produces no lameness. Thrown and secured, our assistant punctures the tumor at the most dependent part, viz., on a level with the inferior *cul-de-sac* of the tarsal sheath. This puncture is made with the trocar No. 2 of Dieulafoy's apparatus, in a direction "oblique from the surface to the depth and from downwards upwards." An attempt is made to draw the synovia with the syringe, without success; but, as the instrument is withdrawn, a few drops of synovia escape through the canula. The iodined solution is then injected†; it was intended not to leave it more than three minutes, but after that time it is impossible to extract one drop of it either by aspiration or by pressure on the tumor. Several other punctures are made, even in the supero-internal *cul-de-sac*, without positive result. A severe inflammatory reaction followed this operation. To relieve it, the animal was placed in slings, and continued cold irrigations applied on the swollen hock. After two days, the pains subside. But the hock remains swollen, and after forty-seven days the mare is returned to her owner. The lateral faces of the hock are swollen, as is the infero-posterior part of the joint, in the region corresponding to the tarsal arch. A year later, the swelling has considerably diminished, it feels puffy, not fluctuating, produces no lameness, but diminishes the value of the animal.

---

* A plan that we recommend to the principal director of the clinical department of our American veterinary colleges.—[EDITOR.]

† This solution is composed of: Sublimate iodine, 1 part; alcohol, 15 parts; iodide of potassium, 2 parts; distilled boiled water, 30 parts.

Observation II.—A very handsome heavy draught horse, four-and-a-half years old, has on the left hock a tarsal tendinous thorough-pin, as big as two fists, more developed on the inside; not laming the horse, but being a serious blemish, which it is desirable to remove. The iodine injection will be tried. The operation is performed with the trocar No. 2, of Dieulafoy's apparatus, and the syringe connected with it. The entire synovial collection is removed and replaced by a nearly equal quantity of solution composed of tincture of iodine (to the 12th), 10 parts; distilled water, 20 parts; iodide of potassium q. s., to make a limpid solution. This was allowed to remain half a minute only in the tarsal sac, and was withdrawn by aspiration with the Dieulafoy's syringe. The operation was performed without complication; the immediate sequellæ were very simple; the inflammatory swelling not excessive; the lameness trifling. Eight days later, the hock is larger than before the operation, the animal is removed home, with directions that he should do light work for a couple of weeks and then return to his ordinary duty. A month after, the thorough-pin has noticeably diminished, and the horse is used to work requiring powerful efforts; he works as a shaft horse, with loads of 2,500 to 3,000 kilos. Several months later, the thorough-pin is larger than before the operation performed five months ago; it is soft, puffy, not fluctuating. Returned to the hospital to be treated for an attack of typhoid fever, fourteen months after the injection of iodine, we observed that the hock is much reduced. It is smaller than at the time of the operation, but is there still. Is the failure due to the short sojourn—half a minute—of the iodined solution, or to the violent efforts of the work performed too early, a month after the operation? We incline to believe that the first cause is most likely the correct one; on that account, since that failure we leave the injection one and even two minutes in the sac, according to the length of time since the lesion has existed, and also the supposed irritability of the subject.

A CASE OF POLL-EVIL.—A mare, aged seven years, had a diseased condition of the poll for seven months. At first it manifested itself in the shape of an atloid hygroma, then came fistulæ and the mare could not be used, as she could not carry a bridle. She is very restless to dress. In glancing at the poll, this region is the seat of a diffused tumefaction, more marked on the left than on the right, in which there exist two fistulous openings, reddish, situated near the median line, towards the superior part. The diseased region is so painful that it is impossible to explore it in the standing position, the animal fights too much. It is necessary to cast her. Then two fistulous tracts are found, running on each side of the cervical ligament; that of the left side a little higher than the right. From them escapes a great quantity of thin, serous pus; exploration with various probes shows that the fistulæ are sinuous. With the bistoury they are enlarged, and then explored with the finger; it is found that under the cord of the cervical ligament, between it and the atloido-occipital ligament, there is a large cavity, irregular, with granulating walls, containing unhealthy pus, mixed with mortified tissues. This cavity has developed in the fibro-elastic tissue situated between the two ligaments above named, and is formed at the expense of this tissue and of the serous bursa which assists the sliding of the cord of the cervical ligament over the atlas. The bursa is destroyed by the suppuration, which is itself sustained by the necrotic lesions of the surrounding tissues. These lesions have originated in the atloid hygroma, observed seven months ago, and also probably through some traumatism, such as violent rubbings, bruise or pressures, having injured the skin in its entire thickness, thus opening an entrance to the pyogenic microbes. The case is evidently serious on account of the length of time of its existence, its deep situation in a region whose anatomy is so complex and the movements so frequent, which will render the cicatrization difficult. And, again, it is known that, in that region, the necrosis has a tendency to spread, that the atloido-occipital can be destroyed, that purulent infiltrations may take place, and reach the vertebral canal or in time give rise to septic or pyæmic complications. Observation has shown, however, that these dangerous complications can be prevented by section of the cord of the ligamentum nuchæ. · With this operation, the constant pressure that it makes over the tissues underneath is removed, and there are chances for the inflammation to subside and for the entire elimination of the necrosed parts to take place; in other words, for recovery. Accordingly, *cervical desmotomy* is performed immediately. To this effect, the straight tenotomy knife is introduced, flatwise, in one of the wounds made in enlarging the fistulæ; then the sharp edge of the instrument is turned against the ligament, the head extended on the neck and held firm, the ligamentous cord is divided, in its whole thickness, from inwards outwards, being careful not to divide the skin. All this is done quickly, as the blood is escaping very freely; the wound is plugged with oakum, soaked in perchloride of iron solution, and closed with quilled sutures. Twenty-four hours after, these are removed and the wound dressed with a mixture of naphthol and camphor, equal parts. Under the influence of this dressing, made daily, the cicatrization begins to take place, the soreness of the poll diminishes, but the swelling remains, specially on the left side. A few days later, about ten, a fistulous opening is discovered on the left of the wound of operation; thick, white pus escapes from it, free from necrosed parts. This fistula is injected with a solution of iodine, viz., 10 parts of the tincture, 20 of distilled water, and sufficient quantity of iodide of potassium to make the mixture limpid. The dressings of naphthol and camphor are continued. Forty-seven days after the operation, all the wounds are cicatrized, the poll is no longer swollen, but yet remains painful; but a month later, the animal can stand the pressure of the bridle.

(*To be continued.*)

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By W. V. Bieser, D. V. S., New York City.

Leucæmia in a Cat [*Lellman*].—At the end of February I was called to examine a cat that had, according to the version of the owner, emaciated markedly in spite of a good appetite. I found a two-year old cat, badly nourished, in a state of general weakness with her hairy coat minus its gloss. The visible mucous membranes were very pale, the pulse small, soft, irregular, 150 to the minute; the cardiac pulsation was abnormally vigorous, and could be felt on both sides of the chest.

As the animal was very emaciated the pulsation could also be seen at the left side of the chest. Percussion in the cardiac region showed increased dullness, and gave an almost tympanitic note. Both sounds of the heart were audible, the first sound louder and of shorter duration than normal, the second sound decidedly weakened and accompanied by a murmur synchronous with the ventricular systole, the well recognized hæmic murmur of anemia not dependent upon any organic change in the valves but upon the changed character of the blood passing through the valves, in short, an inorganic murmur. The temperature varied from $101\frac{3}{5}$° F. to $102\frac{2}{5}$° F. Respiration was quickened to 48 per minute. Percussion of the thorax showed nothing abnormal with the exception of the increased dullness before spoken of. Auscultation of the lungs showed vascular breathing somewhat strengthened. The appetite was good, the dejecta dark and thin. The liver and spleen were found upon palpation to be markedly enlarged; the submaxillary, post pharyngeal, supramaxillary and inguinal glands were easily felt because of their increased size. Unfortunately I could obtain no urine, gladly as I would have liked to make a urinary analysis; for it would have been interesting to observe whether (xanthi, hypoxanthi, guanin, etc.) were present in abnormally large quantities. The general behavior was normal; sensation was unimpaired; the cat was relatively active. In order to substantiate the diagnosis of leucæmia I examined the blood by the Thomazeiss hæmatositometer; the blood—taken from the ear—even to the eye was of a changed (lighter) color and coagulated slowly.

It took four days to count the red and white corpuscles, the average ratio of the red to the white corpuscles being only twelve to one; amongst the markedly changed and increased leucocytes I found multinuclear and mononuclear cells, also cells of a hyaline consistency. A large number of red corpuscles in their embryonic state were present. These facts may perhaps explain why the red corpuscles were so markedly diminished in number (olygocythæmia rubra), their number being only 300,000 per cubic miliimetre.

I also found a number of needle-shaped (Charcot's) crystals. This blood examination therefore established the diagnosis of leucæmia. The animal remained in this same condition for about a week and then suddenly died from collapse, with symptoms of internal hemorrhage. At the autopsy 1½ tablespoonfuls of blood were found extravasated under the skin upon the left side of the thorax; the abdominal cavity contained two tablespoonfuls of an extravasated serous exudate; the peritoneum showed a greyish white discoloration; the intestinal canal was practically empty, containing a little fluid matter; the rectum contained fæces of a soft consistency; a half dozen ascarides were also present in the bowel. The solitary follicles of the colon were enlarged; the liver also showed upon its diaphragmatic surface beneath the serous membrane covering the middle and right lobes numerous small hemorrhages; the liver acini were enlarged and clearly differentiated from one another; the liver tissue was greyish yellow, the central veins contained hardly any blood, the consistency of the liver soft and friable. The spleen was enlarged, of a dark red color, of pretty firm consistency; the Malphigean bodies were prominent and enlarged from the size of a bean to that of a hazel nut. The kidneys upon longitudinal section showed numerous small hemorrhages in the medullary layer. The pleura contained a tablespoonful of bloody serum, the pericardium a half a teaspoonful. The heart was markedly enlarged and in a condition of diastole, both ventricles containing blood, the right ventricle the most, the heart was dilated, the myocardium, especially of the right ventricle, being atrophic, the left ventricular wall being also thinner than normal; the valves showed nothing abnormal with the exception of a little thickening of the free edge of the mitral valve, a change insufficient to cause either stenosis or insufficiency; the heart muscle was dry and of a greyish red color. The lung was retracted, dotted upon its dorsal aspect under the visceral pleura with numerous white nodules varying in size from that of the head of a knitting needle to that of a pea; upon scraping the lung tissue with the flat surface of the knife, a foaming fluid exuded. The bronchial and other lymphatic glands were enlarged, of a soft consistency, and of a greyish white color. The cerebral and spinal meninges showed numerous small hemorrhages. The marrow of the long bones was dark red and of a gelatinous consistency similar to juniper jelly; the bones very, very fragile.—(*Berl. Thierärzt Woch.*)

TANNALBIN AS AN INTESTINAL ASTRINGENT [*Engel*].—For years chemists have been trying to find a preparation of tannin that would not be dissolved or absorbed in the stomach, and that would thus be able to exert its astringent effect upon the bowel. Tannigen meets these indications and has been used with good results. G. made use of the fact that egg albumen after long continued heating at high temperatures becomes nearly or altogether impervious to the action of the gastric juice. This statement applies to tannin albumenates. By tests it was established that heating for five to six hours at 100° to 120° C. suffices to keep the egg albumen thus heated intact from the action of gastric juice for 24 hours, whereas the pancreatic juices digest it. The tannin albumenate tannalbin occurring as a light yellow tasteless powder is of great value in all cases of acute diarrhœa or chronic catarrh of an uncomplicated nature, where a reliable intestinal astringent is desired. It is harmless, has the advantage of tastelessness, and furthermore does not disturb the stomach. For the adult 1,0 every one or two hours, for minors 0,5 thrice daily is the ordinary dose; after one or two days' use in this way, the dose can be diminished.—(*Berl. Thierärzt. Woch.*)

ACUTE NEPHRITIS FOLLOWING INTERNAL AND EXTERNAL ADMINISTRATION OF SPIRITS OF TURPENTINE.—A filly was treated for colic by its owner with a drench containing tr. opii and spirits terebinth; at the same time the abdomen was well rubbed with spirits of turpentine.

The animal quickly became decidedly worse. Pulse and respiration increased. Temperature rose to 103° F. Visible mucous membranes showed marked reddening and congestion; profuse general perspiration set in. Examination per rectum elicited marked pain as soon as the author pressed with his hand against the posterior wall of the left kidney. Although the bladder was empty, tenesmus set in. The coming on of the nephritis was according to the opinion ot the author favored by the condition of strangury of the kidney, present in most cases of colic. Phlebotomy lowered the blood pressure and diminished the kidney pain. Internally the animal received opium, aconite, and belladonna; later tincture of aconite with sodium bicarbonate. Hot fomentations were applied in the region of the kidneys and lukewarm soap water injections given per rectum. Under this treatment and proper diet the animal recovered in three days. The author recommends tinct. aconit. and sod. bicarb. as the best sedative for the urinary apparatus.—(*Berl. Thierärzt. Woch.*)

BELGIAN REVIEW.

HYPERTROPHY OF THE PROSTATE IN A DOG [*By Prof. E. Lienaux*].—In a very interesting article the author considers some manifestations which are met with in this affection, and which will considerably help in the clinical study of enlarged prostates. The first case is one with complications of *intermittent hemorrhages*. The animal, losing blood through the penis, by drops, immediately after micturation or when making the slightest effort; after a certain time, however, a complete impossibility for urinating became manifest, and, notwithstanding a comparatively successful systotomy the patient died, exhibiting at the post-mortem a prostate as big as two large nuts, with its structure still homogeneous but of soft consistency. A second case refers to a *calcular cystitis*, sequella of a prostatic hypertrophy. The dog had some difficulty in micturating, due to the presence of a calculus in the urethral canal. Relieved several times of the same trouble, one day one of the stones was found engaged in the bony structure of the penis, which for its removal demanded a complicated urethrotomy, which in the presence of the uncertainty of permanent relief, decided the owner to have the dog destroyed. The bladder was found to contain a large sediment and numerous small calculi,—some sixty. The prostate was enormous. A third case relates a manifestation of *perineal hernia* produced by a displacement of the urinary bladder, which at first can be reduced, but after some time has assumed large dimension and imposes for its reduction, the puncture of the bladder through the perineum. Cystopexy is the only possible chance for a permanent relief,—but during the operation the dog dies by hemorrhage, and at the autopsy here again a noticeable hypertrophy of the prostate proves to be the original cause of the trouble. To conclude, the author relates a case of enlarged prostate, complicated with *hydronephrosis*, resulting from the obstacle to micturation due to the abnormal gland; it was enormous and containing in its lobes softened centres, with colloid but not purulent contents. After considering the indications of treatment according to the manifestations, Prof. Lienaux speaks favorably of castration, which by recent experiments seems to be followed by atrophy of the prostate structure. Other treatments which have found their way in human surgery do not appear to be practicable in veterinary. —(*Annales de Med. Vet.*)

ACCIDENTS OBSERVED IN RACE HORSES.—On account of the importation of English thoroughbreds into Belgium and their presence on the racing tracks, Mr. F. Hendricsen has had opportunity to observe some very interesting cases, a number of which he records. *Tendinous Distensions.*—Under this denomination he refers to the "breaking down" of the English, which can involve the laceration of some of the organs of suspension back of the cannon, tendons or ligaments, a condition called in Belgium the "snapping" of the tendons. The treatment which he recommends is either cold or hot water, blisters of mercurial ointment, or severe cauterization in lines and intermixed with points. A rest of not less than six months is required. *Sprain* *of the Axoido-atloid Joint, with Enlargement of the Right Lateral Muscles of the Neck.*—A horse jumps an obstacle, falls and remains down as dead. Raised, his head is carried low down and deviated to the left; there is a very tender spot over the axoido-atloid articulation, which is very much swollen, and an enlargement on the right side of the neck; there is no crepitation. The treatment consisted of continued cold water irrigation, followed by gradual mechanical elevation of the head and neck, with a wide blister over the enlargement of the neck. The animal got well in five weeks. *Laceration of the Means of Attachment of the Sus-carpal (Trepezium) Bone.*—Also the result of a fall, this was characterized by a swelling of the external and posterior face of the knee, hot and painful. The sus-carpal bone is very movable and can be pushed to the posterior face of the knee. No flexion at the joint. The horse resists energetically when it is attempted.. Cold water irrigations, compresses of tincture of arnica, followed by blistering and massage, with later on cauterization, gave good results. The animal was no longer fit for racing purposes. *Laceration of the Internal Crural Muscles.*—This occurred without external violence, on a flat field race, where the mare suddenly stopped. Taken to her stall, she shows great suffering, is covered with perspiration, and unable to rest on the right hind leg. This is the seat, on its internal face, of an enormous swelling, fluctuating and very painful. There is no crepitation. Cold applications were prescribed. By order of the owner the mare is destroyed on the third day. At the post-mortem is found a complete *transversal laceration* of long and short adductors of the leg with a partial rupture of the pectineus and small adductor of the thigh. *Fracture of the Scapula.*—Like the preceding, this took place in a flat field race, the animal at her best speed suddenly stopped and is on three legs unable to rest on the right fore. She suffers greatly, she struggles whenever she is touched, there is a large swelling of the olecranian muscles and of the whole right scapular region. She was found dead the next day in her box. A comminuted fracture (some twenty fragments) was found, which occupied the neck of the bone.—(*Ibid.*)

ACTINOMYCOSIS OF THE RUMEN AND RETICULUM [*By MM. Lienaux and Hamoir*].—After a brief history of the etiology of actinomycosis and its comparatively contagious nature, where all manifestations of the disease seem to be due to the introduction of the parasite through a trauma of some kind; and after considering that these traumæ may take place in the digestive organs and that though some of them, like the rumen and the reticulum, which often contain foreign bodies which may produce the necessary traumatic lesions, yet actinomycosis seems to be rather rare in them. The authors relate an interesting case of an animal, which, while at pasture, having become tympanitic, was improperly tapped by her owner. Relieved from the gastric trouble, she began to suffer with the formation of successive abscesses in various parts of the flank, some thirty in number, which, however, by treatment subsided, and after a year the animal was sold to the butcher for market. At the slaughter-house four actinomycotic tumors were found in the rumen, one in the reticulum. Some had peduncles which united the growths to the fistulous wounds of the flank. To accuse the puncture of the rumen as the cause of the trouble would be an easy matter, had the pus of the abscesses of the flank been examined for the actinos ; as it was not, the door is open to doubt. But, say the authors, in similar conditions, pus ought always to be carefully examined and its nature established.—(*Ibid.*)

ITALIAN REVIEW.

LINGUAL ACTINOMYCOSIS IN A COW.—Dr. V. Bonaretti, in the *Clinica Veterinaria*, records an interesting case of recovery of this affection by the iodide of potassium treatment. Affected for some time, and treated for simple glossitis first, the condition of the tongue was such when seen by Bonaretti that the administration of a drench containing 10 grammes of the iodide in a quart of water could not be administered. Deglutition was impossible and the animal threatened to fall at each attempt made. It was then decided to try administration by the rectum. After taking rectal injections of iodide of potassium for three days in succession, the improvement of the tongue was such that it became possible to continue the treatment; which was done. Recovery was complete by the administration of five doses of the iodide, 10 grammes to each dose.

A CASE OF NASAL POLYPUS SIMULATING GLANDERS.—Dr. G. Bosso, in the *Giornale della Royale Societa Nazionale Veterinaria*, of Turin, records the case of a horse which was suspected of glanders, which had been placed under observation, and in the discharge of which numerous micro-organisms had been found, which on potato culture had failed to give the characters of the coloration of the bacillus mallei. Repeated injections of mallein had given rise only to a slight elevation of the temperature and a small local reaction at the point of injection, but insufficient to justify a positive diagnosis of glanders. The animal, on account of his debilitated condition, was ultimately destroyed. At the post-mortem no lesions of the lungs nor of the other organs were found, but on the right side of the septum, whose mucous membrane was of a pale rose color, was found a pedunculated polypus which filled up the entire cavity on that side. This polypus consisted of round cells contained in a condensed connective cellular substance, supplied with blood vessels of new formation.

GLANDERS DIAGNOSTICATED BY MALLEIN AND CONFIRMED BY INOCULATION TO THE DONKEY [*By Dr. P. Prignaux*].—This animal, ten years old, had presented a discharge of the left nostril, with a small enlarged maxillary gland; and had been treated as suffering with chronic catarrh. The author, suspecting glanders, had employed mallein and obtained an elevation of temperature sufficiently characteristic to justify his diagnosis of glanders, and accordingly prescribed sanitary precautions. Not satisfied with this result a third veterinarian was called; he, not being an advocate of the value of mallein, advised the test of inoculation to a donkey, which was done, and followed in a few days by the most severe manifestations of acute glanders. Both animals were then destroyed. At the post-mortem, lesions of the nose, which were not discovered during life, were found, with extensive glanderous deposits in the lungs. This experimental control speaks well in favor of the value of mallein in the diagnosis of glanders.—(*Clinica Veterinaria.*)

THE INJECTIONS OF CHLORIDE OF SODIUM IN SHOULDER LAMENESS.—In the *Clinica Veterinaria*, Dr. A. Trinchera records a number of experiments, which he has made at the Surgical Clinic of the Milan Veterinary School, to test the value of the saturated solution of chloride of sodium injected subcutaneously or intramuscular; 5 to 10 grammes were used in each injections, and from 5 to 8 injections made alternately in the shoulder region, posterior spinatis muscle, arm and antibrachial region. Extensive myositis followed these injections, in some cases abscesses. Relief was also obtained. The conclusions of the excellent report of Dr. Trinchera are as follows: *1st.* The subcutaneous injections produced a phlegmon more or less severe and diffuse, according to the quantity of the solution used; intramuscular injections gave rise to a myositis, proportionate to the quantity of liquid used. *2d.* With perfect antiseptic measures, both injections can be used and the formation of abscesses avoided. *3d.* Subcutaneous injections give rise to a phlegmon which acts as a powerful revulsive. Intramuscular injections produce an inflammation of the muscles and also of the deep tissues, whose revulsive action not only facilitates the reparative processes, but also produce a greater immobility. *4th.* From the cases observed, no specific action can be granted beyond its irritating power. *5th.* Subcutaneous injections have produced less severe effects than the intramuscular,—and for that reason they will give rise to a direct effect on the organs of locomotion of the region, which will be better immobilized. *6th.* Subcutaneous injections, to resume, are better indicated in recent and slight cases; intramuscular in chronic cases with muscular atrophy. *7th.* The revulsion and immobilization obtained by the injections, especially the intramuscular, are superior to those produced by all other means recommended. *8th.* If the effects of the injections are greater than those of other remedies, it does not follow that it is an infallible panacea for all shoulder lameness. *9th.* At any rate, when the injections are successful, the lameness does not subside until the phlegmon, the abscess or the myositis have disappeared. *10th.* Taking in consideration the other means employed against shoulder lameness, it seems that the duration of the treatment is about the same as in the injections of chloride of sodium, and more if used in the muscles. The injections, however, present the advantages of not leaving any blemishes.

REVIEW OF BIOLOGY.

UPON THE GLANDEROUS SCIRRHOSIS OF THE LIVER [*By Cadiot and Gilbert*].—At the autopsy of a 12-year-old horse, which had died of extensive lesions of pulmonary glanders, the authors found in the liver scirrhotic lesions well marked, as well as glanderous nodules. The scirrhosis was evidently perilobular, though not exclusively, as it spread by numerous expansions in the lobes themselves. Distinct in some places, the nodules and scirrhosis mingled together in thousands of places and seemed to be acting under the same causal agent. Glanders, then, may bring on scirrhosis of the liver. The authors have already related muscular and tuberculous hepatic scirrhosis in the horse and on that account are inclined to believe that this affection takes place in that animal with a relative facility. —(*Soc. of Biol.*)

EXPERIMENTAL LESIONS OF THE LIVER BY INTRA-VENOUS INJECTIONS OF MICROBIAN TOXINES [*By MM. Teissier and Guinard*].—If two cubic centimeters only of toxine methodically sterilized and obtained either from a culture of the bacillus of Lœfler, or one of the pneumo-bacillus liquefaciens of Arloing, are injected, one may rapidly see (sometimes after 13 or 14 hours, as this occurs when the injection has been pushed in the portal vein) extensively marked alterations in the liver. These observations, made upon more than 25 dogs and 15 rabbits, show that microbian toxines are apt to produce *alone* and, so to speak, immediately, *without the intervention of the micro-organisms*, very severe lesions of the liver, which resemble entirely those described by Hanot and Gaston under the name of *infectious liver*. These lesions are susceptible by their serious nature, and specially their extent, to explain the sudden appearance of the highly acute accidents which take place clinically after some microbian infections, such as diphtheria.—(*Ibid.*)

UPON THE PROPAGATION OF TUBERCULOSIS OF CATTLE BY FÆCAL MATTERS [*By MM. Cadéac and Bournay*].—Previous researches which we have made have shown that the bacilli of Koch swallowed by dogs pass through the digestive tract of those animals and are found intact in the fæcal matters. Is it the case with cattle? Everything seems to show the contrary. These animals are the soil of production of the microbe of tuberculosis. Its digestive canal is well disposed to hold it, fix it or absorb it. The rumen permits the alimentary and infectious masses to gather in it and to remain in it a long time, the omasum and the many leaves, whose action is purely mechanical, by their arrangement permit the microbes to remain in them without being destroyed. Those which pass through enter the intestines, where they are absorbed at the intestinal villi as shown by the experiments of many. If this absorption be total or partial is not known. And yet this is an important question to the point of view of the hygiene and prophylaxy of tuberculosis. Indeed, if the bacilli of Koch are not all absorbed, the phthisical animal, which swallows the virulent matters as they are expectorated, or which eliminate on the surface of the intestinal mucous membrane the bacilli developed on a level with the ulcerated Peyer's patches, contribute to the extension of the disease through the fæcal matters. We have tried to verify this mode of contagion. To a one-year-old bull we have given for four days a meal composed of hay and tuberculous lung, very rich in bacilli, taken from an adult cow. For four consecutive days 200 grammes of fæces were gathered and diluted in 100 cubic centimeters of water. The product of this, filtrated, furnished, after 12 hours, several cubic centimeters of a greenish liquid of which 2 c. c. were injected in the ear of a rabbit. Sixteen of these animals were thus inoculated. Two died of septicæmia, one of intoxication, thirteen became tuberculous. Two died after a month and had pulmonary miliary tuberculosis. The eleven surviving ones were killed afterwards and presented tuberculous indurations of the lungs, liver, spleen and kidneys. Besides these experiments, the microscopic examinations of the fæces of the bull revealed the presence of the bacilli of Koch.

This demonstrates evidently that fæcal matters are virulent and liable to propagate tuberculosis as much as sputa of men.—(*Ibid.*)

INOCULABILITY OF TUBERCULOSIS OF MAMMALIA TO BIRDS [*by MM. Cadiot, Gilbert and Roger*].—In previous papers the authors have tried to show the difference between the tuberculosis of mammalia and that of birds. They have demonstrated that inoculations of the human bacillus does not produce lesions in gallinaceous. There are exceptions to this rule, however ; out of 40 hens inoculated with human bacillar lesions, 5 presented visceral tuberculous granulations. Since 46 hens were inoculated ; 12 of them were placed in conditions which show that the hyperthermy of the birds is not the principal cause of their resistance to the tuberculosis of mammalia. Of 34 others, 3 took tuberculosis. Altogether out of 86 hens, 7 took tuberculosis and transmitted it to 2 other hens. These positive results, representing 10 per cent., are unfortunately left without explanation, the cause of resistance of the birds and the conditions of their receptivity remained unfound. But the experiments of the authors allow us to recognize the modifications that the bacilli of mammalia may undergo in the organism of gallinaceous. Sometimes it preserves its original character and cannot be transmitted to the hen ; at others it becomes able to be reinoculated, conserving sometimes, from its origin, the possibility to resume it in animals, which, like the dog, are little sensible to the aviary virus. Bacilli of mammalia and of birds do not then represent different breeds of a same species ; their distinctive characters are too contingent to establish between them an absolute distinction.—(*Ibid.*)

REVIEW OF PHYSIOLOGY.

ASSISTANCE TO A CEREBRAL HEMISPHERE BY THE OTHER [*By M. de Manaceine*].—Proofs of the duality of the brain have been seen in cases of dividing of the personality, in loss of memory after disease or traumatisms, in the return of memory after a long time, in remembering while asleep what was forgotten while awake. New proofs are produced by the author. The left hemisphere is the most active in the awakened state and the most torpid during sleep. If one tries to tickle with a feather the face of a person sleeping deeply, he will make motions as to chase flies, but always with the left hand, the right remaining asleep. On the contrary, left-handed people make with the right hand the same movements to chase flies off, no matter whichever side of the face is tickled. In young dogs kept in absolute sleep, the cutaneous sensibility diminishes and becomes alternate, passing after 10 or 20 seconds from the right to the left side; and the pupil of the insensible side is itself indifferent to the action of light. It seemed as if these animals have their hemispheres periodically and alternately active. In experiences of retrography, if one is made to write with both hands, there is always among the letters of the direct writing some written in writing of mirror (retrography) with the right hand, and still they had been written at that moment by direct writing with the left hand. And a last fact, in case of left hemicrania accompanied with difficulty of speech and of writing, the direct writing with the left hand (corresponding to the activity of the brain) becomes more clear and firm than in ordinary condition of health.—(*Rev. Med. Sc.*)

UPON THE ALTERATIONS OF THE NERVOUS SYSTEM DURING INANITION [*By A. Monti*].—Lesions of various organs have been described in inanition, but it has always been admitted, till at present, that the central nervous system remains intact and that its material like its functional integrity are preserved. Experiments made by Monti on rabbits submitted to a long fast, have shown him that inanition brings on deep alterations in the nutrition of the central nervous system; located on the protoplasmic prolongations, on the body of the nervous cell and consisting in a varicous atrophy: the cells degenerate in losing their aspect of adult to return to that of fœtal element. —(*Ibid.*)

THE EFFECT OF SUPPRESSION OF WATER IN ANIMALS [*By*

Perince and Scagliosi].—A dog, deprived of water, died after the eleventh day, having lost 24 to 25 per cent. of his weight. Fowls, deprived of water, continued to eat corn up to the eighth or tenth day, then died. The microscopic examination showed an infiltration of little cells in the conjunctival tissue; hemorrhages in the muscles of the skeleton, of the tongue and of the heart, in the lungs, the kidneys, the nervous system, etc.—(*Ibid.*)

EXPERIMENTS UPON THE PITUITARY GLAND [*By G. Vassale and E. Sacchi*].—From previous observations the authors have concluded that the total destruction of the hypophysis has, in dogs and cats, a fatal result in less than fourteen hours with characteristic symptom: hypothermy. Subcutaneous injections of juice from the hypophysis gland raise the temperature and improve the general condition. The same thing occurs in strumiprive cachexia, in the spontaneous myxœdema or that of operation when one injects thyroid juice. The partial destruction of the pituitary gland is compatible with the life of the animal (at least for a year). However, it produces attenuated symptoms of total destruction, anorexia, dullness, weakness of the hind quarters, fibrillar contractions, muscular shakings, thermic lowering. These phenomena diminish. It is likely that hypophysis, like the thyroid, secretes a special product, necessary to the economy.—(*Ibid.*)

INFLUENCE OF THE TOTAL OR PARTIAL SUPPRESSION OF THE HEPATIC FUNCTION UPON GLYCEMIA IN NORMAL AND DIABETIC ANIMALS [*By Mr. Kaufmann*].—The author performs, in the dog, the extirpation of the stomach, the intestines, spleen, pancreas, and liver—that is, the digestive viscera. The animal may survive several hours. In a second series, he removes the intestines only, the liver is left; in a third he extirpates the stomach, spleen, and pancreas, and leaves the liver. He observed that, when the hepatic function is suppressed, the proportion of sugar diminished rapidly in the blood, whether the animal dies normal or diabetic. There is hypothermy. When the liver is entirely cut off from the blood of the portal vein and still receives that of the hepatic artery, there is yet hypoglycemia and hypothermy, as if it has been removed. The suppression of only a part of the portal circulation (or intestinal or gastro-splenic) has no depressing effect upon the glycemia. It may even increase in diabetic. Then the temperature rises. Portal circulation is in closer proportion with the glycogenic function of the liver than that of the hepatic artery. The portal vein is the true functional blood vessel of the liver. These facts are agreeing with the theory which attributes the excess of sugar in the blood of diabetics to an exaggeration of the formation of this substance in the liver.—(*Arch. of Phys.*)

SOCIETY MEETINGS.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The 33d Annual Meeting of the United States Veterinary Medical Association will be held in the parlors of the Genesee House, Buffalo, N. Y., September 1st, 2d, and 3d, 1896.

Officers.—W. Horace Hoskins, President, 3452 Ludlow St., Philadelphia, Pa.; F. H. Osgood, Vice-President, 52 Village St., Boston, Mass.; C. C. Lyford, Vice-President, 821 3d Ave., S. Minneapolis, Minn.; R. H. Harrison, Vice-President, Atchison, Kansas; S. Stewart, Secretary, 7½ So. James St., Kansas City, Kansas; Jas. L. Robertson, Treasurer, 509 9th Ave., New York, N. Y.

Comitia Minora.—W. L. Williams (Chairman), Bozeman, Mont.; Thomas B. Raynor, Chestnut Hill, Pa.; Leonard Pearson, Philadelphia, Pa.; T. J. Turner, Kansas City, Mo.; N. P. Hinkley, Buffalo, N. Y.; D. E. Salmon, Washington, D. C.; L. H. Howard, Boston, Mass.; and the officers *ex-officio*.

Committee of Arrangements.—N. P. Hinkley, 359 Ellicot St., Buffalo, N. Y. (Chairman); C. J. Willyoung, 215 Carolina Ave., Buffalo, N. Y.; John Wende, 1593 Main St., Buffalo, N. Y.;

Committee on Intelligence and Education.—A. W. Clement, 916 Cathedral St., Baltimore, Md. (Chairman); John Faust, 209 Union Ave., Poughkeepsie, N. Y.; A. H. Baker, 2537 State St., Chicago, Ill.

Committee on Diseases.—S. J. J. Harger, 205 N. 20th St., Philadelphia, Pa. (Chairman); W. B. Niles, Ames, Iowa; T. D. Hinebauch, Fargo, N. Dak.; John Wende, Buffalo, N. Y.

Committee on Army Legislation.—J. P. Turner, Fort Meyer, Washington, D. C. (Chairman); John R. Hart, 2577 Ambro St., Philadelphia, Pa.; F. H. Mackie, Fairhill, Md.

Committee on Publication.—W. L. Williams, Bozeman, Mont. (Chairman); N. P. Hinkley, Buffalo, N. Y.; S. Stewart, Kansas City, Kansas.

Resident State Secretaries.—Alabama—C. A. Cary, Auburn; Arizona—D. Lemay, Fort Grant; Arkansas—R. R. Dinwiddie, Fayetteville; California—R. A. Archibald, San Francisco, 405 26th St.; Colorado, J. K. Thompson, Pueblo, 301 S. Union Ave.; Connecticut—R. P. Lyman, Hartford, 328 Asylum St.; Delaware—H. P. Eves, Wilmington, 507 W. 9th St.; District Columbia—J. H. Adamson, Washington, 716 13th St.; Illinois—R. P. Steddom, Galesburg; Indiana—F. Braginton, Hammond; Iowa—G. A. Johnson, Sioux City, City Bld.; Kansas—N. S. Mayo, Manhattan; Louisiana—W. H. Dalrymple, Baton Rouge, 207 N. Boulevard St.; Maine—H. H. Choate, Lewiston; Maryland—W. C. Sigmund, Baltimore, 1918 Wilkins Ave.; Massachusetts—Madison Bunker, Newton; Michigan—S. Brenton, Detroit, 83 5th St.; Minnesota—M. H. Reynolds, St. Anthony Park; Mississippi—Tait S. Butler, Agricultural College; Missouri—J. M. Phillips, St. Louis, 3146 Easton Ave.; Montana—W. L. Williams, Bozeman; Nebraska—A. T. Peters, Lincoln, Experiment Station; New Hampshire—Lemuel Pope, Jr., Portsmouth; New Jersey—J. P. Lowe, Passaic, Box 183; New York—C. D. Morris, Pawling; North Carolina—F. P. Williamson, Raleigh, 122 W. Hargett St.; North Dakota—T. D. Hinebauch, Fargo; Ohio—J. C. Meyer, Jr., Cincinnati, 1111 Walnut St.; Pennsylvania—W. L. Rhoads, Lansdowne; Rhode Island—J. A. McLaughlin, Providence, 50 Benefit St.; South Carolina—Benj. McInnes, Charleston; South Dakota—M. J. Treacy, Fort Meade; Tennessee—J. W. Schiebler, Memphis, 312 3d St.; Virginia

—Geo. C. Faville, Norfolk, 46 Charlotte St.; Washington—S. B. Nelson, Pullman; West Virginia—L. N. Reefer, Wheeling, 1406 Chapline St.; Wisconsin—G. Ed. Leech, Milwaukee, 150 7th St.

Veterinarians desiring to procure an application blank or a copy of the constitution can procure the same by writing to the resident State Secretary of his State or to S. Stewart, the general secretary, at 7½ So. James St., Kansas City, Kans.

INSTRUCTIONS TO PERSONS ATTENDING THE MEETING.

Arrangements have been made for us for rates over the Trunk Line Association which has original jurisdiction and we have every reason to believe the adjoining lines will grant the same rates. It has been done heretofore.

1. The reduction is to persons going to the meeting over the Joint Traffic Association and probably over all lines between the Missouri river to the Atlantic.
2. The reduction is fare and one-third on Committee's certificate, conditional on there being an attendance at the meeting of not less than 100 persons who have traveled thereto on some legitimate form of railroad transportation.
3. The reduction applies to persons starting from Trunk Line territory by any of the roads named below, who have paid 75 cents or upwards for their going journey. Each person availing of it will pay full first-class fare going to the meeting and get a certificate filled in on one side by the agent of whom the ticket is purchased. Agents at all important stations and coupon ticket offices are supplied with certificates.
4. Certificates are not kept at all stations. If, however, the ticket agent at a local station is not supplied with certificates and through tickets to place of meeting, he can inform the delegate of the nearest important station where they can be obtained. In such a case the delegate should purchase a local ticket to such station and there take up his certificate and through ticket to place of meeting.
5. Going tickets, in connection with which certificates are issued for return, may be sold only within three days (Sunday excepted) prior to, and during the continuance of the meeting; except that, when meetings are held at distant points to which the authorized limit is greater than three days, tickets may be sold before the meeting in accordance with the limits shown in regular tariffs.
6. Deposit the certificates with the secretary or other proper officer of the organization at the meeting, for necessary indorsement and visé of special agent.
7. Certificates are not transferable, and return tickets secured upon certificates are not transferable.
8. On presentation of the certificate, duly filled in on both sides, within three days (Sunday excepted) after the adjournment of the meeting, the ticket agent at the place of meeting will return the holder to starting point, by the route over which the journey was made, at one-third the highest limited fare by such route. The return ticket will in all cases be closely limited to continuous passage to destination.
9. No refund of fare will be made on account of any person failing to obtain a certificate.

ASSOCIATION OF VETERINARY FACULTIES OF NORTH AMERICA.

The third annual meeting of the Association of Veterinary Faculties will be held at Buffalo, New York, September 4th, 1896. The headquarters of the Association will be the Genesee House, where a special parlor is provided for the meeting.

The programme consists of the reports of several committees, notably those of the committee on a uniform veterinary degree, and the committee to devise legislation in regard to a uniform examination by State Boards of Veterinary Examiners. The action upon these reports by the association will be of great interest and importance. The subjects laid over from the last meeting, from want of time, will now find consideration. These subjects are:

1. A uniform course of instruction, *i. e.*, the subjects that should be taught in every veterinary school and the time devoted to each. Speaker, Prof. J. W. Adams, Philadelphia.

2. Mutual recognition of students by colleges belonging to the Association of Faculties. Speaker, Prof. H. D. Gill, New York.

3. Competitive examination for position in veterinary faculties.

4. College fees.

It is to the interest of the university veterinary department and to the individual veterinary colleges to send representatives to the coming meeting. All voting delegates must be properly accredited by their college authorities.

OLOF SCHWARZKOPF,
Chairman Executive Committee, Assoc. of Veterinary Faculties.

PENNSYLVANIA STATE BOARD OF VETERINARY MEDICAL EXAMINERS.

The second examination of the Board was conducted at Philadelphia, on the 15th and 16th of June, at City Hall, commencing at 10 A. M. each day. The entire Board was present to conduct the various examinations, as allotted to the several members.

Some twelve candidates presented themselves, representing the American, University of Pennsylvania, New York and Toronto Veterinary Colleges.

The following applicants obtained the necessary 65 percentage, entitling them to the license of the Board: Drs. H. A. Christmann, Gilbert C. Drummond, John R. Mohler, H. D. Martien of Philadelphia, graduates of the Veterinary Department of the University of Pennsylvania; Drs. A. W. Ormiston and Samuel Henry Johnston, of Philadelphia, graduates respectively of the American and the New York Veterinary Colleges; Drs. C. M. Heberton, Cynwyd, Pa., Charles H. Miller, Duncannon, Pa., James R. Mahaffy, of Wilmington, Delaware, graduates of the Veterinary Department of the University of Pennsylvania, and Dr. R. G. Rice, of Rome, Pa., graduate of the Ontario Veterinary College. One graduate of the Veterinary Department of the University of Pennsylvania, and one from the Ontario Veterinary College failed to obtain the required average.

The Board elected officers for the ensuing year as follows: President, W. Horace Hoskins, Philadelphia, Pa.; Secretary-Treasurer, Dr. S. J. J. Harger, 205 N. 20th St., Philadelphia, Pa.

Prosecutions in a number of cases were ordered, and vigorous measures will be adopted in dealing with all violations of the several provisions of the acts governing the practice of veterinary science in the Keystone State.

W. HORACE HOSKINS,
Secretary.

The following questions were propounded in the various departments, the candidates being required to answer ten out of the fifteen in each branch. Where not otherwise mentioned, the question had reference to the horse.

Veterinary Diagnosis.—How would you differentiate between chronic glanders with lesions in the head and collection of the nasal sinuses? What are the characteristic symptoms of spavin? Give the diagnostic signs of pleurisy and pneumonia in their several stages. What are the diagnostics signs of traumatic pericarditis in cattle; for what othe r pathological conditions may it be mistaken? How would you distinguish mange from vesicular eczema in the dog? What are the diagnostic symptoms of collection of the guttural pouches and with what other conditions may it be confounded? How do you differentiate between shoulder and foot lameness? Upon what is the diagnosis of navicular arthritis based? In case of lameness how do you determine the lame member? What is the difference in the movements of the member in shoulder lameness as compared with foot lameness? What are the diagnostic signs of laminitis? Given a chronic case with a history of gradual falling off in flesh, tucked-up abdomen, general stiffness in locomotion or lameness, possibly intermittent, if one or more members, what would be your diagnosis? With what other conditions may it be confounded? What is your general procedure in examining a horse for lameness under the most favorable conditions? How would you diagnose anthrax in cattle? How do you administer tuberculin for diagnostic purposes in tuberculosis, and what constitutes a reaction? What constitutes a typical reaction with mallein in a glandered horse?

Practice of Veterinary Medicine.—Give the causes, symptoms and treatment of polyuria. Give the diagnostic symptoms of pleurisy and treatment of the same. Give the symptoms and exciting causes of tetanus. Give the symptoms of choke in the horse and ox and treatment for the same. Give the diagnostic symptoms of impaction of the stomach, and treatment for the same. Give the symptoms, causes and treatment of of osteo porosis. How would you distinguish between contagious pleuro-pneumonia and tuberculosis in the ox? Give the diagnostic symptoms of hog cholera and the best methods of control of such an outbreak. What group of general symptoms make it difficult to distinguish between intestinal parasites and distemper in the dog in the incipient stage? What is periodic ophthalmia? How would you diagnose it? and state treatment. What are the predisposing causes, diagnostic symptoms and treatment of parturient apoplexy (milk fever) in cattle? What is influenza, and what forms and group of symptoms does it assume? In an outbreak of rhino-adenitis among a large number of animals, what general plans of management would you adopt? What varieties of worms infest the digestive tract of a dog? What diseases infect the air passages of sheep?

Sanitary Medicine, Meat and Milk Inspection.—What diseases of animals are most dangerous to consumers of meat? What measures are required to suppress and eradicate pleuro-pneumonia contagiosa and tuberculosis in cattle? Give the symptoms and sanitary requirements of glanders. In what manner would you demonstrate the contagiousness of rabies? What sanitary conditions should be observed in the construction and management of a large barn where transient animals are sheltered? Under what conditions would you condemn meat for human food? How would you impress your seal of condemnation of live stock at export stations? Supposing that you were placed in charge of some large abattoir as inspector, explain how you would conduct the affairs of your office. What are the indications of putrefaction? How would you examine pork for trichinæ? What is colostrum; give its composition in the cow? What would you consider a proper basis of solids in milk? How would you determine same? Under what conditions would you condemn milk as unfit for human food? What is the specific gravity of cow's milk of good quality? What three essential parts is milk composed of, and how may these principal constituents be separated?

Surgery.—Describe symptoms and surgical treatment for collection of the superior maxillary sinuses in the horse. Describe symptoms and surgical treatment of collection of the guttural pouches in the horse. Describe symptoms and surgical treatment of roaring in the horse, viz.: laryngotomy or arytenectomy. Describe symptoms and surgical treatment for cartilaginous quittor, resection of lateral cartilage. Describe symptoms and surgical treatment for amputating penis of the horse. Describe symptoms and surgical treatment of spavirn. Describe symptoms and surgical treatment for paraphimosis. Describe symptoms and sugical treatment for navicular disease. Describe symptoms and surgical treatment for ringbone. Describe symptoms and surgical treatment for conjunctivitis. Describe symptoms and surgical treatment for string-halt. Describe surgical treatment for toe-crack, superficial and deep. Give indications for tracheotomy in the horse—describe operation. Describe ovariotomy in the bitch and give physical contraindication. Describe symptoms and surgical treatment for impaction of the rumen of the cow.

Zootechnics.—Describe the character of an eight-year-old mouth. What is atavism? Give an example. Give the signs of a good milk cow? What precautions would you observe in purchasing a horse for breeding purposes? What diseases are hereditary and what is the relative value of pedigree and performance? What is a normal food, and what constitutes a normal day's ration for a horse? Describe a Dutch (Freisian) cow. What are the races of horses (equus caballus)? Name and describe two. Define and illustrate by example the different methods of reproduction applied to the domestic animals. Give the difference between the Spanish and the Oriental ass. What in your opinion is the relative influence of the male and female upon the young? What is hybridization? Give hybrid between equine and asinine species. What are the essential characteristics of a hybrid? Define precocity; its causes and characteristics, with example. Describe the time and frequency of the menstruations in the mare and cow. At what age does puberty occur in the various domestic female animals?

Therapeutics and Materia Medica.—What are the therapeutic uses for camphor? What is the dose for a horse of oleum tiglii? Hydrargyrum chloridum mite? Describe the physiological actions of opium. What is the antidote for opium poisoning? Name the alkaloids of hyocyamus. What are the uses of chloral hydrate, and the contra-indications to its use? Write a prescription for purpura. What are the therapeutic uses of belladonna? Give the dose of its principal alkaloid to a setter dog. What is the antidote for lead poisoning? Describe briefly the physiological actions and uses of lobelia. What do you consider the best cardiac depressant? Anti-spasmodic? Alterative? What are the contra-indications to the use of chloroform? Describe briefly how you would treat a case of arsenical poisoning in a dog. How would you disinfect a stable? Name three (3) mineral astringents. Three (3) vegetable astringents. What is the principal use of spigelia?

Obstetrics.—What does successful fecundation depend upon? Mention some of the causes of sterility. Describe fœtal circulation. What are the uses of the liquor amnii? What constitutes the umbilical cord and what purpose does it serve? Give some of the rational and some of the material signs of pregnancy. What is the normal duration of pregnancy in the mare? What in the cow? What hygienic measures would you observe in the management of animals during gestation? Name the diseases peculiar to pregnancy. Mention some of the accidents of pregnancy. What constitutes normal parturition? What are the various stages of parturition? How would you deliver a mare or cow in which the four feet of the fœtus were presented, sterno-abdominal presentation, head retained? How would you treat complete inversion of the uterus? What is mammitis? Give symptoms and treatment for same.

Chemistry.—Define chemistry. Define an element. What is atomic weight? Name and define the various kinds of attraction. What are the symbols for the following elements: oxygen, mercury, silver, lead, sodium, manganese, potassium, magnesium, nitrogen, and iron? What is a test for a carbonate? What is the composition of water? Air? Write the formula for common salt, hydrochloric acid, sulphuric acid, epsom salts, and baking soda. What is the atomic weight of hydrogen, oxygen, nitrogen, sulphur and silver? What is the flame test for sodium? Copper? Give a test for arsenic. Give a test for albumen in urine. Give a test for sugar in urine. How would you prepare sulphuretted hydrogen? How would you test a case of lead-poisoning in a cow from its milk?

Anatomy.—Describe the bones of the pelvis. Describe a dorsal vertebra. Describe the flexor pedis perforans and its check ligament. Name the superior cervical muscles in their order of superposition. Name and describe the ligaments of the fetlock. Name and locate the principal superficial veins of the horse. Describe the plantar nerves. Describe the regional anatomy in low neurectomy. What is the difference between the lungs of the horse and those of the ox and what the principal peculiarity of the latter? Describe the arterial supply of the foot below the fetlock. Describe the cunean tendon. How can it be located? Describe the liver. What is the difference between the kidney of the horse and that of the ox? Describe the common carotid arteries. Describe the pneumogastric nerve.

Physiology.—What are the different forms of digestion? What is the function of salivary digestion? On what does gastric digestion act? What part of digestion is carried on in the small intestines? What effect have the movements of mastication on the salivary flow? What is chyme? What are the functions of the liver? What is Heintz's test for bile? In what way is the coloring matter of the bile obtained? What are the functions of the testicles? What other tissues aid in this secretion? What is the object of respiration? Are the movements of the lung passive or active? Is respiration purely an involuntary act? What keeps this centre active?

Pathology.—Define inflammation. What is a complete cell? What are the steps of inflammation? What are the terminations of inflammation? What are the two general divisions of inflammation? What is chronic inflammation? Define glanders. What kind of an inflammation? Define tuberculosis. What is a cyst? How many kinds? What is a malignant tumor? Benign tumor? What are the physical types of the following tumors: osteoma, myoma, neuroma, lipoma? What is leukæmia? What is the cause of moist gangrene? What are the stages of croupous pneumonia? Define anthrax.

VETERINARY COLLEGE ANNOUNCEMENTS.

New York State Veterinary College.—We have received the announcement of the opening of the State Veterinary College at Cornell University, in Ithaca, which will begin instructions on September 21, 1896. The catalogue, which will be mailed to any one upon application, is quite exhaustive, giving the act and amendments which established the school and appropriated the money for its maintenance; excellent illustrations of the buildings and adjunct departments; the faculty of veterinary medicine and collateral branches, with a description of the various chairs, and many other details. The faculty of the veterinary college is as follows: Jacob Gould Schurman, D. Sc., LL. D., President; James Law, F. R. C. V. S., Professor of Principles and Practice of Veterinary Medicine, Veterinary Sanitary Science, and Veterinary Therapeutics; the chair of Veterinary Surgery, Zoötechny, Obstetrics, and Jurisprudence is yet vacant; Pierre Augustine Fish, B. S., D. Sc., D. V. S., Assistant Professor of Veterinary Physiology, Materia Medica and Pharmacy; Veranus Alva Moore, B. S., M. D., Professor of Veterinary Pathology and Bacteriology, and of Meat Inspection; Simon Henry Gage, B. S., Professor of Microscopic Methods, Histology and Embryology; Grant Sherman Hopkins, B. S., D. Sc., Assistant Professor of Veterinary Anatomy and Anatomical Methods; Benjamin Freeman Kingsbury, A. B., Ph. D., Instructor in Veterinary Pathology and Bacteriology; Raymond Clinton Reed, Ph. B., Instructor in Microscopic Methods, Histology and Embryology. Besides this large array there are a number of professors and teachers in Cornell University who furnish instruction to the veterinary students. While this is a most satisfactory faculty for the inauguration of the State College, we would have liked to have seen the names of more veterinarians on the list, as it has been proven that, while theoretical teaching of the higher grade is indispensable, practical instruction by practical men makes successful practitioners. Certainly, no fault will be found with Professor Law nor Professor Fish (the only veterinarians in the faculty), and we have no doubt that the Chair of Surgery will be acceptably occupied by the opening of the session; but it does appear that there are many other of the departments that could have been assigned to our modernly-educated veterinarians, who could have dispensed not only theoretical but practical knowledge in their various departments. Aside from the meagre number of veterinarians in the faculty, the announcement bears every indication of a brilliant opening in September, and as the sessions are of long duration, and covering three years, students will have every opportunity to prepare themselves in the advanced branches that are forcing themselves upon the modern veterinary surgeon. Address, Prof. James Law, Director, State Veterinary College, Ithaca, N. Y.

THE KANSAS CITY VETERINARY COLLEGE.—We have received the sixth annual announcement of this institution, in which the directors proclaim some important changes and improvements for the coming session. The college will have a new home, having secured a commodious building, in a healthful location, with pleasant surroundings. Class rooms, laboratories, museum, etc., are now being arranged and supplied with modern equipment, well ventilated and lighted. The hospital arrangements are ample and afford most excellent opportunity for clinical study and demonstration. A large court gives the students space, light and privilege to study and assist in the treatment of the great variety of cases offered by a free clinic maintained by the college faculty. The faculty has been strengthened by several additional members and new studies have been added to the curriculum. The adoption of a three-year graded course places this college on a plane with other advanced seats of learning. A post-graduate course, covering the subjects of meat, milk, and dairy inspection, has been arranged for the latter part of the year, beginning January 12th and continuing eight weeks. The faculty consists of the following brilliant array of veterinarians and others: Chas. J. Sihler, V.S., Sesco Stewart, M.D., D.V.M., Robert C. Moore, D.V.S., Isidore J. Wolf, M.D., Leon Rosenwald, M.D., Silas J. Brooking, M.D., D.V.S., Thomas A. Bray, D.V.S., Benjamin F. Kaupp, D.V.S., Sidney L. Hunter, V.S., R. H. Harrison, D.V.S., Wm. C. Barth, V.S., Theodore Schaefer, M.D., Joseph S. Lichtenberg, M.D., Thomas J. Turner, D.V.S., E. Von Quast, M.D., Frederick W. Hopkins, D.V.S., U. B. McCurdy, D.V.S., Frank M. Sheridan, Esq., L. Enos Day, V.S., O. G. Atherton, D.V.S., Geo. Q. Smith, Ph.D., and Thomas C. Proctor, M.D. The location of the new college building is at 1404 and 1406 Holmes Street, Kansas City, Kansas, and the dean is Prof. Sesco Stewart, M.D., D.V.M., to whom all communications should be addressed.

THE AMERICAN VETERINARY COLLEGE.—The announcement for the twenty-second annual session is issued, and this year gives carefully compiled rules of matriculation and admission as approved by the Board of Regents, the course of study, including her great array of adjunct branches, her requirements for graduation, list of prizes and beneficiaries, along with the practical department (the American Veterinary Hospital). The Board of Trustees are the same as last year, with the addition of W. B. E. Miller, D. V. S., of Camden, and three alumni trustees (L. H. Howard, of Boston; Charles Burden, of New York, and W. H. Lowe, of Paterson, N. J.) No changes are made in the governing faculty, while in the adjunct H. D. Hanson, D. V. S., who has for a number of years been occupying the chair of canine medicine and helminthology, has been raised to the associate professorship of Theory and Practice, and Allen S. Heath, M. D., V. S., has been made Professor of Hygiene, Breeding and Zoötechnics. The catalogue also gives the graduates of the college since its institution—nearly six hundred—the prize winners since its organization, and many other interesting details for those interested. Address A. Liautard, Dean, 141 West Fifty-fourth Street, New York City.

UNITED STATES COLLEGE OF VETERINARY SURGEONS.—The announcement for the coming session of this college is probably the most artistically printed and arranged catalogue that has ever been issued by an American veterinary college, profusely illustrated by splendid half-tones. Three sessions of six months each are necessary for graduation, and the faculty contains the names of five veterinarians, Prof. C. Barnwell Robinson, V. S., being dean, and Professor of Theory and Practice and Anatomy; Andrew C. Seacord, D. V. S., Professor of Dental Surgery and Anatomy; Harry W. Acheson, D. V. S., Professor of Cattle Pathology and Obstetrics; Elias S. Walmer, V. S., Professor of Canine Practice; J. P. Turner, V. M. D., Professor of Sanitary Medicine and Zoötechnics, while the other branches are in the hands of M. D.'s. Address C. Barnwell Robinson, Dean, 222 C Street, N. W., Washington, D. C.

UNIVERSITY OF PENNSYLVANIA (VETERINARY DEPARTMENT).—No changes are noted in the veterinary department of this great university for its twelfth annual session. Profs. Harger, Pearson, and Adams retain the chairs they formerly held, while the adjunct faculty of demonstrators and lecturers is not materially changed. For the new illustrated catalogue address Jno. Marshall, M. D., Dean of the Veterinary Faculty, 36th and Pine Sts., Philadelphia, Pa.

MALLEIN AS A DIAGNOSTIC FOR GLANDERS.

LETTER EXPLANATORY.

BROOKLYN, July 14, 1896.

Editors American Veterinary Review:

MY DEAR SIRS:—Seeing that it is imperative that veterinary surgeons in this city report all contagious diseases in their practice to the Board of Health, for my guidance in complying strictly with that ordinance, I wished to have the opinion of the Health Department on the virtue of mallein as a diagnostic agent in glanders.

I enclose you the opinion of said department resulting from that correspondence, and if you think the same of sufficient importance for a space in the REVIEW it is at your service.

If the stamping out of glanders in this city is practised on the lines of the opinion expressed, the alarming prevalence is readily accounted for.
Yours truly,
L. McLEAN, M.R.C.V.S.

LETTER OF INQUIRY.

BROOKLYN, June 17, 1896.

Dr. Z. Taylor Emery, Commissioner of Health, City :

SIR :—To enable me to comply intelligently with the ordinances of the Board of Health, I will thank you to inform me if your Department considers an animal that reacts to the mallein test affected with glanders? An early reply will oblige

Yours, etc.,
L. McLEAN, M.R.C.V.S.

COMMISSIONER'S LETTER OF TRANSMISSAL.

DEPARTMENT OF HEALTH, COMMISSIONER'S OFFICE,
38 AND 40 CLINTON STREET, BROOKLYN, N. Y., June 24, 1896.

L. McLean, M.R.C.V.S., 14 Nevins Street, Brooklyn, N. Y. :

DEAR DOCTOR :—Enclosed please find a copy of the special report of Dr. E. B. Ackerman, Veterinary Inspector of this Department, relating to the mallein test and its being considered infallible, or otherwise, for the determination of the presence of glanders. Trusting the same will be satisfactory to you, I am,

Yours very sincerely,
Z. TAYLOR EMERY, M.D., *Commissioner of Health.*

REPORT OF VETERINARY INSPECTOR ACKERMAN.

BROOKLYN, June 20, 1896.

Hon. Z. Taylor Emery, M. D., Commissioner of Health :

DEAR SIR :—In reply to L. McLean's letter of June 17, 1896, which was referred to me for an opinion, I beg to state that there are several questions to consider before the matter can be definitely settled. The history of the case before and after injection would have to be taken into consideration, as well as the amount of reaction obtained from the inoculation and the quality of mallein used ; since, if the mallein is improperly made, it will not produce a reaction on a diseased horse, and unless mallein is properly diluted it will occasion a thermic reaction in a healthy horse. I do not think we are justified in destroying an animal in good health, which is fat and with coat and body in good healthy condition, and with no external symptoms of glanders, such as fever, enlarged glands, discharge from nostrils, chancres in nostrils, or large swollen legs, corded lymphatics, farcy buds, etc., simply on account of a reaction after an injection of mallein, and there is no law which will compel a man to destroy a horse upon a mallein test by itself and without other symptoms. But, of course, if the owner is willing, the horse may be killed and the danger is thus disposed of.

Prof. Nocard, of Alfort, France, a scientific authority, says: "Mallein is a very delicate test and will react where there is very little pulmonary glanders present, and that a certain number of horses, if removed from the medium of infection, may recover. Only those which present some clinical signs should be destroyed. The others should be isolated or removed from infection and submitted from time to time, every two months, for example, to a new test with mallein, and those which, upon two succeeding injections with mallein, show no reaction, should be considered as definitely cured. These precautions are a safeguard to the owners of animals and have been adopted by the French Minister of Agriculture."

I do not know about being cured, but I know there are some horses which, almost a year ago, reacted to mallein, but had no clinical symptoms, and the same horses are working to-day and are in good condition. Some of these horses gave a reaction of from 4 to 6 degrees F. Normal mallein will give a slight reaction with some of the constitutional diseases and I do not consider the mallein test as infallible.

Yours respectfully,
(Signed) E. B. Ackerman, D. V. S., *Veterinary Inspector.*

THERAPEUTIC NOTES.

By H. D. Hanson, D.V.S., New York City.

In canine practice cases of asthma seem to occur quite frequently.

For *the relief of the asthmatic attacks*, the following is worth a trial:

℞ Ammonii bromidi,	ʒ ii
Ammonii muriati,	ʒ iss
Tincturæ lobeliæ,	ʒ iii
Spiritus ætheris nitrosi,	℥ i
Syrupi acaciæ, q s.	℥ iv

Misce. Sig.: *One* to *two* drachms every *two* or *three* hours, according to the size of the dog, etc.

For *the disease asthma*, try the following, which should be continued for some time :

℞ Potassii iodidi, ʒ i
Liquoris ammonii arsenitis, ʒ ii
Tincturæ belladonnæ, ʒ iii
Aquæ, ad ℥ iv

Misce. Sig. : *One* to *two* drachms every *three* or *four* hours, according to size, etc. If the potassium iodide cannot be borne by the patient use the syrup of hydriodic acid in *one drachm* doses for awhile.

For *rachitis in puppies*, the following may give good results :

℞ Calcii phosphatis.
Ferri phosphatis, āā gr. xxxvj.
Misce. et fiat chartulæ No. xii.
Sig. : One powder night and morning.

For *otitis* and *otorrhœa* in dogs, especially if the discharge is offensive :

℞ Acidi carbolici,
Zinci sulphatis,
Plumbi acetatis, āā gr. x.
Aquæ distillatæ, fl. ℥ viii.
Misce. Sig. : Inject twice a day.

In prescribing for many of the ailments that come under the veterinarian's care, disinfectants are very frequently indicated, both internally and externally. Probably they are not prescribed as much as they ought to be. Any of the following, which belong to this class, may be of service, and are here enumerated merely to refresh the memory :

Lime, sulphur, charcoal, camphor, benzoin, oil of wintergreen, oil of peppermint, chinoline, salicin (salicylate of soda, salol, etc.), creosote, carbolic acid, corrosive sublimate, boracic acid, permanganate of potassium, chlorine and compounds, bromine and compounds, iodine and compounds.

Along with the above the following should not be lost sight of : Perfect dryness, free ventilation, absence of air, water, extreme cold, extreme heat.

COMMUNICATIONS.

HORSE-SHOEING.

PHŒNIX, ARIZONA, May 18, 1896.

Editors American Veterinary Review :

DEAR SIRS :—In your valuable REVIEW of May I noticed an article on "shoeing" by E. L. Morgenroth. The article was interesting to me, not only for its true worth, but was of especial interest as it came from the pen of one of my old classmates. I agree with him that there is little written on this subject in veterinary journals. This is, perhaps, to a great extent, the fault of the subscribers, as we are all rather loath to write our experiences and observations—some from lack of time, but more, perhaps, have an idea they cannot write anything interesting. I can offer both of these excuses, but, as E. L. M. says his article was written to open discussion, I also write in the same spirit.

As I lived in Wisconsin quite a number of years, I know some of the conditions there in regard to the abuse of horses' feet; but of all climates, I think the climate and soil here in the valley is the hardest on the foot of the horse, and, I might say, there is as little care taken of horses' feet here as any place I have lived. This last is on account of there being so many horses raised in comparison to the number used, and as they require no stabling during the year, their feet are seldom looked after until they are broken, which is usually at two or three years old. As irrigation ditches are numerous the horses run in these at will, and from there to the grass-covered fields, inducing a great growth of hoof, which breaks and cracks, leaving the foot in anything but a proper condition. This applies only to the great valleys, as the range horse has a hoof smooth and almost as hard as iron. There are some good shoers, but there is a tendency here, as everywhere, to scoop out the bottom of the foot, nail on the shoe, then rasp the foot to fit the shoe, instead of fitting the shoe to the foot. Factory-made shoes, where there is a narrow rim around the outside for the wall only to rest upon, with a concave surface where the sole should rest, should in my opinion, never be put on, as my observation has convinced me the side of the shoe next the foot should rest its whole width on the foot, at the same time paring the foot so the frog will support its share of the weight of the horse. This is important, as the frog is nature's wedge to prevent contraction of the heel. In case of interfering, a slight lowering of the inside of the foot (instead of the outside, as most shoers do) will in most cases prevent this.

Forging.—There is quite a tendency in young horses to forge (that is striking the toe of the hind foot against the toe of the front foot, on the under side, just as the front foot is raised from the ground), which causes a clicking sound. The best remedy for this is to let the hind toe extend longer, keeping the heel low, which delays the action of the hock, giving the front foot more time to move forward out of the way. At the same time shoe light behind, and slightly increase the weight in front. This plan will, to a great extent, also obviate the trouble of overreaching or grabbing the quarter. Although in this trouble a slight increase in the weight of the outside web of the hind shoes is found beneficial.

E. L. M.'s treatment of quarter-crack is good, but I would add a little more, by making a transverse fissure just at the superior point of the crack. This is done with any cautery or firing iron, and allows motion of the edges of the original split without extending it farther up, and, as the hoof grows, the split will gradually grow off, leaving the hoof sound above the transverse fissure.

Calks.—As calks are always objectionable, and are only used as a matter of necessity, we here in the valleys have some advantage in this line, as there is no necessity for calks, only in a few instances, on draft teams in the cities, where the streets are kept sprinkled, or on heavy freight teams going over mountain roads, as there is no snow or ice to contend with.

F. O. RICHMOND, M. D. C.

BIBLIOGRAPHY.

ANÆSTHETICS IN VETERINARY SURGERY (Anæsthesiques en Chirurgie Veterinaire). By Mr. G. Desoubry, adjunct of Physiology and Therapeutics at Alfort. Asselin and Houzeau, Paris.

A little volume of over 100 pages, with some illustrations, where the subjects of anæsthesia, general and local, are concisely treated in eight chapters. After some general remarks on the physiology of anæsthesia, the uses of chloroform, chloral and ether are extensively presented, and their applications considered in the various classes of animals. The mixed methods follow and occupy an important part. The local anæsthetic, with its generalities and its special modes of application, fills the last part of this little work, which is presented to the veterinarians by a preface from Professor Kaufmann.

NEWS AND ITEMS.

SAMUEL D. BICKEL, V.M.D., has graduated from the Medical Department of the University of Pennsylvania.

THE extensive practice of the late James Hamill, V.S., of New York, has been purchased by John J. Hayes, D. V. S.

THE MISSOURI STATE VETERINARY ASSOCIATION will hold its annual meeting at Mexico, Mo., on August 26.

DRS. R. H. HARRISON, T. J. Turner and F. W. Hopkins, graduates of the A.V.C., are members of the teaching staff in the Kansas City Veterinary College.

E. N. LEAVY, D.V.S., graduate of the A.V.C., class of '96, has become a canine specialist, with an infirmary at Lexington Avenue and 61st Street, New York City.

WHY should a man who writes D.V.S. after his name, register by affidavit? Does he assume the title? If so, should it be? Judiciary Committee, will you please answer?

DR. T. J. TURNER, ex-State Veterinarian of Missouri, has accepted an appointment in the meat inspection service of Bureau of Animal Industry and is stationed at Kansas City.

JOHN S. BUCKLEY, D.V.S., gold-medalist at the last examination of the American Veterinary College, has been selected by the Maryland Agricultural College as instructor in veterinary medicine.

PROBABLY the most common mode of infection by glanders is by means of the drinking water. Veterinarians can do much to lessen the spread by seeing that the troughs in stables, etc., be thoroughly cleaned and disinfected in the proper way.

THE MISSOURI VALLEY VETERINARY MEDICAL ASSOCIATION, by unanimous vote, directed its delegates to the U.S.V.M.A., at Buffalo, to extend to the parent association an urgent and cordial invitation to hold the 1897 meeting at Kansas City.

LADIES AT BUFFALO.—It is expected that large numbers of the fair sex will visit the Queen City of the Lakes and Niagara Falls on the occasion of the Buffalo meeting of the three veterinary associations, accompanying their husbands, fathers, or brothers, as the case may be.

H. D. GILL, V.S., dean of the New York College of Veterinary Surgeons, has passed the civil service examination of the Bureau of Animal Industry, and has been directed to report at Chicago. We can scarcely see how the doctor can afford to relinquish his many duties and associations in the Metropolis to fill an official position in the Windy City.

J. ELMER RYDER, D.V.S., who was so unfortunate at the recent fire at the American Horse Exchange as to lose his valuable collection of instruments and many other paraphernalia of a well-appointed office, is now located on the same block, and is beginning to become reconciled to his hard fortune, in which his colleagues have felt the greatest sympathy.

ANTIPYRINE IN THE TREATMENT OF CONJUNCTIVITIS.—It is freely used by oculists at home and abroad; is indicated in the treatment of the various forms of conjunctivitis; is applied with swabs or camel's hair brushes in solution of 10 per cent. It gives rise to a little burning sensation, which soon subsides.

IMPROVED ROENTGEN PROCESS.—A dispatch from Berlin dated May 28 says that the General Electrical Society announce that an improvement has been made in the Roentgen process, and enables the interior of the head, the larynx and the action of the lungs and heart to be observed on a fluorescent screen. The statement has not, however, been well authenticated.

EASY "HONORS."—A two-line advertisement appeared in the July REVIEW to the effect that veterinary surgeons who desired to legally affix "M.D." to their names should address "Medico," 1001 Congress Street, Chicago. The advertisement passed through the business department and was inserted without the knowledge of the editors. We have since investigated the offer of the advertiser, and are convinced that there is no merit in it, and accordingly advise veterinarians to have nothing to do with it.

ILLEGAL PRACTICING.—The Judiciary Committee of the Veterinary Medical Association of New York County has been promising for a year to prosecute illegal practitioners of veterinary medicine in that county. Has anything been done? Laws made should be enforced. Veterinarians will do well to send the names and addresses of those practicing without legal right to Dr. A. O'Shea, chairman of that committee, 117 W. 46th Street, New York City. Have examples made of a few and the others will be apt to stop.

SUICIDE OF A HORSE.—A Superior, Wis., dispatch of May 30th reads: Hundreds of employees in the yards of the American Steel Barge Company witnessed a singular occurrence. A bony, played-out old bay horse walked into the shallow water in the slip known as Howard's Pocket and slowly moved farther out into the deeper water, unmindful of the shouts and missiles of the spectators on shore. When in about three feet of water, the poor animal cast one wistful look around, then deliberately put its head under water and held it there; after this, the owner, a pedler, appeared upon the scene and almost committed suicide himself when he learned of the astonishing deed of his four-footed servant. The horse, it is said, had been poorly fed and overworked.

The Horseless Carriage Race.—This race came off May 30th, and was a successful failure. The route was from Kingsbridge to Irvington, N. Y., and was for a prize of $3000. The roads and weather were excellent. There were 28 entries, but only six vehicles lined up at the starting post, and four of these belonged to one concern. During the run one of the machines collided with a bicyclist, one broke a belt and also took the wrong road, another lost a wheel, the motor of another broke, and the brake failing to work it started backwards down a hill and had to be run into an embankment to stop it.

Labor Lighteners.—Our valued contemporary, the *Veterinary Magazine*, for May, has this to say: "We received with delight the twentieth annual volume of the American Veterinary Review. What it has done for the veterinary profession and veterinary journalism in this country every one of its readers knows much better than can be detailed in words. This can be judged by the improvements on its pages and the enthusiasm of its editors. We congratulate the Review from our knowledge, both professional and personal, upon the acquisition of Dr. Roscoe Bell to its editorial staff. Prosperity is our wish.". . . A well-known Western veterinarian, writing upon business matters, thus concludes his letter: "Your journal is incomparable; the veterinary profession of the country has no reason now to complain with three excellent specialty journals, of which the Review is the easy leader."

Veterinarian for Food Inspector.—Bryer H. Pendry, D.V.S., graduate of the American, class of '95, was appointed on July 15th a food inspector by Health Commissioner Emery, of Brooklyn, N. Y., after having passed a creditable civil service examination. We believe this is the first instance on record in this country where a veterinarian has received this appointment, such positions having been monopolized by the members of our sister profession. The salary is $1,000 per year, and the work does not materially interfere with private practice. The modern veterinarian is eminently fitted for the work, and such positions will be of great assistance to young men in the early days of their professional life.

BACK NUMBERS OF REVIEW FOR SALE.

I have for sale of American Veterinary Reviews Vol. x.—Nos. 3, 5, 7, 8, 12. Vol. xi.—Nos. 1, 2, 3, 5, 9, 10, 11, 12. Vol. xii.—Nos. 1, 2. Vol. xiii.—No. 1. Vol. xiv.—Nos. 2, 3. Vol. xv.—Nos. 3, 5. Vol. xviii.—No. 5. Vol. xix.—Nos. 11, 12. Address, Wm. H. Gribble, D.V.S.,
Washington C. H., Ohio.

AMERICAN VETERINARY REVIEW.

SEPTEMBER, 1896.

EDITORIAL.

THE BUFFALO CONVENTIONS AND THE REVIEW.

When the veterinarians return from their sojourn at the great quadruple meeting of veterinary medical associations in Buffalo, one of the first things that will greet them will be this September issue of the AMERICAN VETERINARY REVIEW. We regret that our regular day of issuance and the day set for the assembling of the hosts at the Queen City of the Lakes are simultaneous, because we have no doubt that a copy of this month's REVIEW would prove an agreeable companion on the route, but the rule to appear near the first day of each month is and is to be inviolable. For this reason the complete programme, as far as was obtainable, was printed in the August number. And this month we simply extend to the veterinary fraternity our compliments and congratulations upon the promise of the largest outpouring of its members that ever gathered in one city in the history of the world. At the same time, we desire to make the announcement that our intention is to present our readers with the most complete report of the proceedings of the conventions at Buffalo that has ever been printed in one issue of a professional periodical. If it is possible, a *verbatim* transcription of the deliberations of the meetings will be printed in that single number, with as many of the papers read as is possible in a great many pages, together with a general *résumé* of the work accomplished, and other interesting information concerning the great event, which will not in any particular interfere with the regular departments of the publication. Every veterinarian in North America should possess a copy of this number, and each subscriber should see that his neighboring fellow-practitioner is equally fortunate with himself in that he does not miss this opportunity to reap the benefits to be derived from the enterprise of the REVIEW.

SCIENTIFIC CHRONICLES.

PREVENTIVE INOCULATIONS IN CONTAGIOUS PLEURO-PNEUMONIA—COMPARATIVE TEST.—It has been well proven by the United States that the only way to clear a country, no matter how great, from the disastrous presence of pleuro-pneumonia, was the general slaughter of all diseased, suspected, and contaminated animals. And the results obtained by England and by Austria in applying the same measure are no doubt due to the example set by the United States. In some parts of the Continent, however, and probably in France more than in any others, the authorities seem to be afraid of the severity of such measures, and are yet having recourse to inoculation as a means of control.

After the discovery made by Prof. Arloing of the microbe which he named the *pneumo-bacillus liquefaciens*, and which we made our readers familiar with in previous numbers of the REVIEW, it was to be expected that the relations of that bacillus to the development of the disease, though denied by so many—such as Nocard, Bittdel and others—it was, we said, to be expected that the next step would be to test the value of cultures of the bacillus for inoculations. And of course this step was soon made.

But for years back there has been in Europe another process of inoculation—the one with which many of our American *confrères* are familiar; it is the inoculation of Willems. Which of the two was the better—which could be recommended bythe Government? To compare the Willems and the Arloing methods a large series of experiments were made lately at Pouilly-le-Fort, already known for the experiments made by Pasteur years ago. These experiments were made with the effect of definitely deciding their comparative value,—both having been tried already with more or less equivalent results, but with the difference, in favor of the method of Arloing, that the inoculation of the cultures of pneumo-baciline were not followed by the same local results found by the inoculation of pulmonary serosity, as in Willems' method. This experiment had also another object, viz., that of showing the real value of the Willems' method, whose efficacy was doubted by many and by the majority of the veteriniarians present at the Congress of Berne in 1895,—doubt which was expressed by a vote of the Congress, which condemned inoculation as a means of fighting pleuro-pneumonia on a large scale, and which can be permitted as exception only in some localities, on account of peculiar circumstances, where general slaughter would be very difficult to apply.

These experiments were begun on January 10th of this year. Forty cows were bought in a district free from the disease, and divided into three lots. The animals of one lot of thirteen were inoculated by the method of Arloing, those of another lot of thirteen also by that of Willems; fourteen animals were kept as witnesses. The animals of Arloing received two injections twelve days apart, those of Willems only one, as is usual. On February 1st, thirty-eight days after the first inoculations made on both lots, the twenty-six animals were, with the fourteen witnesses, put in contact with one diseased animal, and later on with a second. This exposure lasted fourteen days. Without entering for the present into the minutiæ of the experiments, which we may publish later on, let us give the results of the post-mortems made upon the forty animals on the 10th of May:

1st. Of the lot of the Willems cows, all were free from the disease.

2d. Of the lot of the Arloing cows, nine showed lesions of pleuro-pneumonia.

3d. Of the fourteen witnesses, ten showed also pleuro-pneumonia lesions.

This experiment not only shows the crushing superiority of the Willems method over that of the cultures, but it has also confirmed experiments made in 1883 and 1884 by proving that calves born of cows inoculated during gestation enjoy also the maternal immunity. The calves of three cows of the Willems lot, which were pregnant, showed how they were immunized, being born in the middle of a contagion and remained free from disease, though they were kept for more than a month with animals extensively diseased with pleuro-pneumonia.

PNEUMO-BACILLUS LIQUEFACIENS.—The results of the experiments of Pouilly-le-Fort have another meaning,—and one which seems to upset the fact announced by Arloing, that the pneumo-bacillus liquefaciens was what might be called the bacillus of contagious pleuro-pneumonia. Indeed, in one of the last reunions of the Société Centrale M. Ligméres, adjunct to the laboratory of Prof. Nocard, at Alfort, presented a paper establishing the important fact that this pneumo-bacillus liquefaciens was a *normal host* of healthy lungs.

What may come from this discovery can be well suspected in relation to the theory of Arloing, who claims that the pneumo-bacillus is the germ of contagious pleuro-pneumonia—a fact which is doubted by many and not believed in by Prof. Nocard. Undoubtedly the experiments of Pouilly-le-Fort seem to give weight to the opinion of the well-known professor of Alfort.

CRICOIDECTOMY.—Since the publication of the various processes to perform arytenectomy and in the presence of the numerous cases of failure which have been met with in France, the operation of Muller, Fleming and Cadiot seems to have lost many of its former admirers, and something else had to be looked for, which, if it did not prove a panacea, might at least give a sufficient satisfactory result to justify its admission into veterinary surgery. This appears to have been found in a new operation, sufficiently explained by its own name. It is simple, it is perfectly harmless, it has so far been followed by as many good results as those offered by arytenectomy. It is simple, as it consists merely in the exposure of the cricoid cartilage and removal of a somewhat large piece of the inferior portion of this cartilaginous ring. It is harmless, as no complication will follow, no danger for the life of the patient, and from those who have operated upon roaring patients the results have been very satisfactory. I saw an animal which had been operated upon, which previously was roaring loudly almost on the slightest exertion, and when I saw him he was so free from loud breathing that on superficial observation he would have passed as perfectly sound. How the operation of cricoidectomy gives such a result seems to be difficult to explain, except that the diminution in the diameter of the cricoid circle gives rise to a forced elevation of the paralyzed arytenoid, and hence the prevention of its spasmodic interference with respiration.

HORSE-MEAT.—Mr. Devioux, the father of horse-meat consummation, and who, notwithstanding his 75 years, presides today in the society against the abuses of the use of tobacco, must feel quite satisfied at the progress made by his idea of horse-meat as food to mankind, if we are to believe recent statistics. For those who like beef-steaks—of horses—we see that there is now in Paris 200 hippophagic meat markets. This tells how much horse-meat has increased in general use since the 1st of July, 1866—say 30 years ago. In 1872, 5034 horses were eaten in Paris; in 1878, 10,000; in 1894, 21,227; in 1895, more than 30,000.

What shall it be if the queen bicyclette and the automobiles shall have completely taken the place of animal traction?

A. L.

UNIFORMITY OF DEGREE AND EDUCATION.—Upon more occasions than one this publication has sought to devise some means for creating national uniformity of examination and degree for veterinary surgeons. Last winter we advocated the confederation of State boards of veterinary examiners and the foundation thus of a United States Board of Veterinary Medical Examiners as being the only method of overcoming the objection to National legislation, which was considered would interfere with State rights. It goes without saying that such a result will be achieved in time, because the present system is altogether unsatisfactory to the friends of veterinary progress. Before this it was not possible to have made rules for the government of all colleges teaching veterinary medicine, because they were as various in their methods and requirements as they were numerous. But the co-operative spirit of course extension, the establishment of State laws making the extension obligatory upon those who were reluctant, and other factors accompanying the educational advancement,—all make a uniformity of examination, and a degree which shall express and emphasize that uniformity, imperative at this stage in the incessant march. As contributing to the elucidation of this phase of the subject, we print with pleasure in this issue a communication from a member of our sister profession, who recognizes the chaotic state in which we exist at present, and who has become interested in us by virtue of a comparative position in one of our Washington veterinary colleges. His plan is unique, and bears many good points, and now that the subject is under discussion the REVIEW will be pleased to hear from others who have given the subject thought and have suggestions to make.

DR. LIAUTARD'S HOME-COMING.—On September 12th, Prof. Liautard, who has been sojourning in Paris since last spring, will return to New York, in time to assume his important functions in connection with the American Veterinary College. His vacation, while bringing much needed rest, after nearly half a century of the most active and energetic service in behalf of the veterinary profession, for which he has done so much to advance it from incipiency to a high degree of development, has not been an idle one, for he brings with him some beautiful specimens and plates to be employed in his lectures during the forthcoming session of the college. The readers of the REVIEW have been favored in every issue by a great mass of literary material from him, the most of them translations from the French, Italian, and Belgian journals, while the scientific editorials that have appeared from time to time are the productions of his ever-active pen. His friends in America, and their name is legion, will welcome his return with heartiness, and trust that his health will be so good for many years that he will not again have to wander from the land which has profited so much by his genius and which shares his affections with his native France.

R. R. B.

"BOVINE TUBERCULOSIS; A QUESTION OF STATE MEDICINE."—In another department of this issue of the REVIEW will be found an interesting paper bearing the above title, from the pen of that sterling veterinarian, W. H. Harbaugh, of Richmond, Va. Attention is drawn to this contribution, not because it contains facts unknown to the veterinary world, nor that it advances a theory of a new nature, but for the reason that it is a strong and unique appeal to the consumer to purify the source of his beef and dairy supply, thus lessening his exposure to the contraction of loathsome disease. It is such an article as would read well in the agricultural papers, for the awakening of a general interest to the importance of a subject the facts of which have been proven by overwhelming evidence. Veterinarians in all sections would do well to present the same facts to their constituency through the local press, or when opportunity presents itself to address bodies of citizens upon sanitary measures.

SUBSCRIBERS TO THE REVIEW who have not paid for Vol. XX. are reminded for the last time that we cannot afford to carry them, and they must not expect to receive any further numbers unless the subscription price is at once remitted.

THERE is at Rotterdam and at Antwerp large and important factories, where rejected horses of the omnibuses of London are transformed into excellent preserves of beef and sold on the continent with American labels, It is said that this industry consumes some 20,000 horses (?) a year.

ORIGINAL ARTICLES.

[Written specially for the American Veterinary Review.]

FOOD—ITS AGRICULTURAL AND ANIMAL INDUSTRY ASPECTS DISCURSIVELY DISCUSSED.

By A. S. Heath, M.D.,V.S., Brooklyn, N. Y.

Robert E. Wait, B. A., Private Secretary to the Assistant Secretary of Agriculture, gives a most valuable account of the work of the Department as illustrated at the late Atlanta Exposition, as well also such as may be found in the Department Year Book for 1895. I shall use these sources of information freely in this article. Our domestic food-animals, like our crops, are so nearly associated with agriculture, and are like man so subject to disease, that the Department of Agriculture may properly be regarded as the grand embodiment of *national hygiene.* And yet, justice and truth must broaden its sublime title to *universal hygiene*; for do we not, and is it not our national destiny *to feed the world?* Human hygiene has been aptly defined as the art of preserving health; that is, of obtaining the most perfect action of body and mind during as long a period as is consistent with the laws of life. In other words, it aims at rendering growth more perfect, decay less rapid, life more vigorous, death more remote. In a broader sense, it covers the vast fields of our sound and healthy food supplies from every source, from our fields of grasses, and grains, and vegetables, and flocks and herds, and all the products of all of these. For all of these are liable to disease; and the hygiene of food supply presupposed the prevention as well of the various diseases of these as well as the cure. The most hopeful prospect of treatment is the prevention. This prevention as deeply concerns the agriculturist as the physician and the veterinarian. Prevention then, is the philosophy and poetry of the sublime arts of hygiene. The beneficent arts of agriculture lay deep and strong the broad foundations for healthful food-supplies, while the arts of medicine, comparative medicine, and the other noble arts and sciences all aid in securing a bountiful supply of food, and guard it and its consumers against injury, disease and death. How intimate the relationship of art and science! How beneficent the designs of the Creator!

Mainly, the inspection of exported and imported meats and meat-producing domestic animals intended for human consumption is performed by veterinarians. I do not like the term veterinarian, and shall use the more satisfactory one of comparative physician. The significance is more complete, just and reasonable. I have already made application to the Queens County Medical Society to receive as co-members, physicians of comparative medicine, and trust that at no distant day all medical societies will be thus composed. Who are greater hygienists than so-called veterinarians?

Many of the diseases of domestic animals afflict also man. Hydrophobia, glanders, tuberculosis, anthrax and others belong to this catalogue. And similar work remains yet to be performed before our animal food supply shall have been purified to a perfectly healthful standard. Of these, Texas fever and hog cholera are the serious obstacles to food exportation. The Bureau of Animal Industry, at Chicago, alone employs more than fifty experts in examining samples of meat from hogs slaughtered for the export trade. This evidence of governmental care deserves the highest universal commendation. This act is too noble to be tainted by a suspicion of want of generous reciprocity toward our food-product patrons of Europe. From England we obtained the Shorthorn, the Jersey, the Hereford, the Angus, Guernsey, Devons, Red-Polled, and many other beef and dairy cattle; from France only four importations of the noble Normandies; from Switzerland only one importation of the grand Simmenthals, and of other countries to the domestic animals I need not now refer. National spite is as simple as that of the spoiled child who refuses to eat his dinner from some fancied personal affront. If it were pertinent to this article, it might be shown of how much valuable animal food-supplies we voluntarily deprive ourselves by refusing to permit the importation of the best food-producing animals of the world. And the worst feature of the spite is, that *the servant* of the people can interpose his *ipse dixit* against reciprocal exchange of the international food supplies of the noblest nations of the world. The self-cut-off nose of a nation disfigures the face of a great people. "It is only on a certificate signed by the Secretary of Agriculture, stating that the inspected meat is free from trichinæ and other parasites, that pork products are admitted to the markets of certain foreign countries. The rules regulating the importation of live stock into the United States are just as rigidly enforced, and it is hardly likely that any of the European diseases can ever gain a foothold with us here." The quotation fortifies my just censure, as it comes from a department report.

To return to our ability to supply food for our own people and for those of Europe who need it, it will only be necessary briefly to state some facts. The American farmers have amply supplied their own average size families, and have sold an abundance for forty millions of citizens, living in cities, villages and manufacturing hamlets, supplying them with grains, meats, vegetables, fruits, eggs, milk, butter, cheese, poultry, and many other necessaries from their farms. And these supplies were the best the world has ever used. These farms sold in 1895 five hundred million dollars worth of products, of which Europe received 79 per cent. The total value of the products for 1895 must have come near three billions of dollars. And gold dollars at that. I here quote from the Report of the Secretary of Agriculture a most significant query: "How can the 42 per cent. of the population of the United States which feeds the other 58 per cent. and then furnishes more than 69 per cent. of all the exports of the whole people be making less profits in their vocation than those whom they feed, when the latter supply less than 31 per cent. of the exports of the country?"

The decrease of cattle of the United States for the past fiscal year was about two and a half millions. The loss of such an immense product supply of animal food in a single year is a strong argument for the admission of healthy foreign stock, and especially as their average value far surpasses those of our own animals.

We have in the noble prairies of the thirteen States, two territories from North Dakota and Ohio to Texas, 300 millions of acres of land suitable for the varied production of farm crops, besides the almost unlimited increase in the raising of food supplying animals. This means vast profits in diversified agriculture wisely divided among the possible products. These are fair proportions of corn, wheat, cotton, grass and cattle. The wasteful ranch business is an *ignis fatuus*. It has proven a false, foolish, fitful light, and has lured too many to ruin. The hope of suddenly acquired riches blinds the eyes of prudence. And here again I quote from the Year Book of the Department of Agriculture sound advice to the farmer: "The advantages of raising enough grass to feed a sufficient number of cattle to eat the corn on the farm have been lost sight of. It has demonstrated both by experiment and practice that the farmer who sells beef, pork, and mutton that he has produced from corn and grass raised and fed on the farm makes more money per acre of his land and per dollar of his capital than one who grows only wheat or corn or cotton. It is not necessary to entirely discontinue raising these crops, but if we are to produce a surplus to be sold in foreign markets, it is best to export that surplus in the most condensed and marketable form, as meat and animal products, that people want to buy, rather than in the original crude and bulky state, that people do not want to buy." So to speak, we manufacture out of raw material products that command a profitable market. All classes should be laborers, earning more than they spend. True wealth is the surplus of our needs enjoyed for the longest period in health and happiness. Added to this is the true nobility of manhood, doing good to others. This is Christ-like.

ON THE EXTERMINATION OF THE CATTLE TICK AND THE DISEASE SPREAD BY IT.

By Dr. Cooper Curtice, of Moravia, New York.

Read before the Virginia State Veterinary Medical Association at Norfolk, Va., June 24, 1896.

Gentlemen of the State Veterinary Society of Virginia :

I am honored by your President in being invited to address you upon one of the two most important epizoötic diseases now to be found among cattle in the United States. I prefer to present it to you under the name "tick fever," as the tick, *Boophilus bovis*, is, as far as is yet known, the most important, if not the only, factor in its transmission. You will recognize by this name that disease to which more names have been applied than to any other, a fact which indicates the lack of precise knowledge concerning it, held either by the laity or professional, viz.: "Southern Cattle Fever," "Splenetic Fever," "Spanish Cattle Fever," "Texas Cattle Fever," "Carolina Cattle Distemper," "Mexican" or "Indian Cattle Disease," "Distemper," "Bloody Murrain," "Red-water," "Hæmaturia," "Splenic Fever," "Hæmaglobinuria," "Tick Fever," "Acclimatization Fever," etc.

It is the relationship between the tick and the disease and he means of eradicating them from Virginia and the United States to which I invite your attention. Repeated experiments by the United States Department of Agriculture, by your colleagues, Harbaugh and Niles, of this State ; by Dinwiddie, of Arkansas, and, on a larger scale, by the stockmen of the country, have shown conclusively that the tick does give the disease to susceptible cattle. Among all other experiments made to demonstrate another mode of infection, not one has succeeded, excepting the direct transmission of blood from previously infected, but healthy cattle, to susceptible cattle. Since this mode of infection is necessarily rare or never obtained by other than human agencies, it may be passed by as of secondary value in the transmission of the disease.

Permit me to repeat, ticks are the only known means of spreading the disease; if so, is it not self-evident that to prevent the disease spreading the distribution of the tick must be further restricted and finally the species be exterminated?

In the report of the United States Department of Agriculture on Texas fever, 1893, the question as to there being another mode of infection in those States where the disease is more or less permanently located, is left an open one. Nor can it be settled until some area is found in which the cattle are free from ticks, and in which cattle brought there die of the disease without having been infected by ticks. When such a place is found the study of the disease may be taken up just where it has stopped, and new causes or methods of transmission found. This leads us to the question of climatic, telluric or other conditions which may be supposed to foster and spread the disease, aside from the parasite, which we know distributes it far and wide.

The prevalence of the disease in the Southern States in spring, summer and autumn among cattle which are merely moved from farm to farm, or at the outside not over a few miles, is a strong argument that neither climate nor soil has aught to do with the spread of disease, for they are the same. Mr. A. W. Bitting, in Bulletin No. 28 of the Florida Agricultural Station, 1894, describes an outbreak in a herd of cows, bred by the owner near Tallahassee, and kept sound until moved to a tick infested farm nearby, where the "land and water were about the same," and all became affected.

In Georgia there are enormous annual losses from red-water among cattle, which are merely moved about in neighborhoods and farms recognized as infected, although their soil and water privileges are identical with neighboring places where no cattle are lost or whose cattle die when moved.

In your own State there are adjoining counties in which murrain is known or not known; farms which have never lost cattle, while other cattle brought to them or taken from them, frequently die. Nor is it necessary to move them from a highland to lowland or from the north to the south. The movements may take place in any direction and the results be the same.

In this disease two classes of cattle must be constantly borne in mind; those that have become unsusceptible and those that are susceptible. The death record in infected localities indicates the presence of infection and of susceptible cattle, and when they are raised nearby that the soil and climate which is the same for all has no more immediate relation to the disease in Florida, than it would have on neighboring farms in New York. When spread the disease will break out in either; when confined there will be no outbreak, although the means of spreading be close at hand in either.

Counties and farms in this State and others have been infected and reinfected and are to-day as free from disease as any in Maine, though south of, or north of, or east of, or west of others, or higher in altitude than others, or lower than others and containing more or less bottom lands than others, and growing more or less pine or oaks than others, and watered by standing water, running water, etc., etc.

Further, when outbreaks are closely scrutinized the pestiferous tick is always found. In the murrain counties, Buckingham, Patrick, Pittsylvania, Gloucester, Lunenburg or others, cattle-ticks abound. When Prince Edward County before the war lost her cattle by murrain, the ticks, I am informed, were there. Since then they have disappeared and cattle are no longer killed by them, excepting as farms are reinfected, as may occur anywhere.

If, gentlemen, you will ride with me east, west, north or south through this State and inspect farm after farm and make inquiries you will come to no other conclusion than that this disease of many aliases is coincident in distribution with the tick, irrespective of altitude, topography, drainage, soil, food, verdure or climate. Some or all of these factors may influence the spread of the tick, but not the coincidence of the tick and the disease.

Let me explain what I mean by disease in this instance. I not only include the paroxysm of fever that an animal may have, but the changed condition of its system, which permits it to raise the ticks with impunity. In this sense a perfectly healthy cow for all other purposes might contain blood which at any time would disease others under proper conditions. All blood for this purpose must be considered in a pathologic condition; it is altered from the normal. There is then, so far as is yet known, nothing in the climate or soil of the so-called permanently infected country which may lead us to believe it so.

Both history and experiment indicate the contrary. In the 16th, 17th and 18th centuries this country was colonized by two classes of people, who brought their cattle with them. You well know that the Spanish colonized the West Indies, Florida, Mexico, Texas, New Mexico and California, and the North European nations the thirteen colonies. The Spanish endeavored to push northward along the Atlantic coast or, at least, to hold the southward advancing pioneers in check. Until the cattle of the Spanish began to mingle with those of the English to the north those of the latter prospered and multiplied. After that cattle died from tick fever and have continued to die in numbers proportional to the movement and number of cattle involved. This occurred as early as, if not earlier than the 18th century. I believe that Carolina cattle were infected from Florida or Cuban cattle. Virginia cattle were certainly infected by Carolina cattle and also, I believe, by cattle introduced by coastwise traders, who traded in barter, between Cuba and other West Indian Islands and Maine. The disease had become so prevalent in your State by 1750 that special legislation directed against it was necessary. This legislation has been re-enacted and revised at intervals until the law of the last session of the legislature.

As the Spanish cattle spread over Texas, and when the great markets of the North in about 1840, or even before, began to require beef, the Texans were driven over trails northward and spread disease along their route. The disease from these centres slowly spread unhindered by law or man until it was checked by the laws of climate, which restricted the distribution of the spreader of the disease.

The Spanish invader upon this continent was responsible for many things. Could he have planned, as diligently as he did inquisition methods, to have left behind him a cattle plague which would harass his foeman for ages, he could scarcely have found a better means than the tick.

The experiments of the Bureau of Animal Industry show as conclusively as may be, that no disease-giving property is eliminated by cattle upon the ground. The matter up to now, then, lies this way. This cattle plague is nothing more nor less than the result of an invasion of this continent by the parasitic tick, which cattle carry with them.

Is this invasion permanent or temporary? Mr. H. J. Wing, of the Experimental Station in Georgia, picked and killed every tick on his cows in 1892. Since then he has had none. Although he bought ticky cows, he confined them in the stable until he had cleaned them. On that farm cattle from all parts are mingled and none die. Last year he cleaned an adjoining farm of ticks by regular hand-picking, permitting none to escape. Although the cattle went to pasture daily the process occupied but little time, three times a week for a couple of months, although the observation was continued longer.

The invasion of these farms was, therefore, but transient. The invasion of many counties and farms in Virginia, although well within the permanent area, is well known to have been transient. There is no farm in this State or any other State, but that is transiently infected by ticks. The word permanent as it relates to ticks has no place in the American vocabulary. All ordinary herds may be freed with comparatively little trouble by confining animals and hand-picking. If they are kept on an enclosed farm regular persistent hand-picking will free them. And the labor is not so great as it seems. If cattle roam upon commons, then all owners must keep their own cattle free. This will be found to be the direct effective means for freeing all cattle in Virginia. If, however, enclosed land is abundant, the ticks may be kept from cattle by picking off those on them at the time and then turning the latter on to unaffected pastures, hitherto unused by cattle. Thorough greasing of the hairs by cotton-seed oil, lard or kerosene will prevent the little ticks arriving at the skin. Destruction of the ticks by burning the land in spring, or by plowing will also assist the hand-picking. In Virginia and most other States I believe that there is little economy in dipping cattle. Nearly all herds are too small to permit the outlay. Where it must be resorted to, those practicing it must know that the operation must be carried on regularly as often as need be until it is quite sure that the cattle pick up no more on the pastures.

To restrict the advance of the disease northward in summer time the United States annually quarantine the cattle from certain southern states or portions of them, not permitting their transportation northward, excepting under regulation, which keeps them from other cattle. This quarantine, if as effectually carried out in other States as it is now in Virginia, is very efficacious. But the United States should not seek to perpetually quarantine, but to contract the quarantine and thus lessen the menace at every point. It has shown that the means of transmission is a remediable one. Let it do its part in applying the remedy. It is clearly within its province to continually investigate the border line between the quarantined and free areas and proceed to learn the exact condition of infection, to study the effect of local laws and customs upon its spread, to instruct the cattlemen at certain points as regards the suppression of the ticks, and to change the line in accordance with the facts and needs arising.

Whatever the future may show as to there being another means of producing the disease in the South, the Bureau of Animal Industry has shown that as soon as the ticks are removed from sections of country, the cattle from these places are no menace to others and, therefore, that the quarantine line must be, in so far as it is practical in being compatible with political boundaries and natural barriers, coincident with the edge of the area infested by these parts. If for no other reason than those of uninterrupted traffic, the cattlemen of the infested area should make haste to exterminate the tick.

This State has in its last session of the legislature passed a contagious disease act, which will prove very efficacious in preventing the spread of the disease in the free area. It may apply to the uninfected territories within the quarantined area, but the fines are so excessive, that complaints will scarcely be made. For instance, in those localities cattle with ticks are virtually quarantined upon their owners' farms, for there is a fine of from $100 to $500 for permitting them upon the highway or commons.

Could the quarantine of ticky cattle upon infested farms be rendered effective, the great question for Virginia would be more than half settled, for no owner would permit his cattle on the highway before they were cleaned of ticks; and being in constant danger from the ticks spreading from his farm, he would be induced to remove them. When the State is ready to remove the ticks, farm quarantine must be resorted to. I believe that at present a light fine of from $2 to $5 per head for cattle with ticks found on the highways, unenclosed lands or commons, and impounding them until all are cleansed and the fine paid, would be far more efficacious than the high fine imposed by the present law, and which is necessary to prevent violations of the State quarantine line.

Fellow veterinarians, your duties in this instance are to do all in your power to keep up a perfect quarantine between the area partially infected and the free district. Those of you who live within the infected district owe it to your patrons to instruct them as to how the disease is spread, to show them, even if it is necessary to take some farm as an experiment, how to rid that farm of its ticks, and more than all to keep the public market places and cattle ranging at large free from ticks. I have found that cattle owners are only too willing to fall in line when once they are convinced that it is of use. You are to take every means at your command to show its use.

By means of the wide-awake Virginia veterinarians, I believe that in less than five years, tick-disease or murrain in this State will be an unknown quantity. You owe it to yourselves and to your fellows in other States to show what may be done by a few willing, courageous men. The task is a great one, but if you do what you find to do, it will be accomplished.

I look most eagerly for the cleansing of even a certain portion of the infected territory under the direct intention of man, for it opens the way to pushing the ticks back to the Spanish isles and Mexico, and liberating cattle from disease and pests and the farmer from untold money losses. Let your war-cry be "Death to the ticks."

BOVINE TUBERCULOSIS, A QUESTION OF STATE MEDICINE.*

By W. H. Harbaugh, V. S., Richmond, Va.

The discovery of the tubercle bacillus by Robert Koch in 1882 at once and effectually put an end to all disputes and controversies as to the cause of tuberculosis in its various manifestations, which had agitated the minds of medical investigators up to that time.

Koch's discovery also established the fact that tuberculosis in man and the lower animals is due to one and the same cause, no matter how much the symptoms and lesions may vary in the different species, and it may be pointed out that this disease attacks more different species than any other disease, although some species exhibit a much greater susceptibility to it than others, and while some species show a marked degree of insusceptibility by the ordinary means of transmission of contagion, they succumb to inoculation. But man and the bovine species above all others seem to be the special marks for the attacks of this scourges and hence, the relationship of the disease in these two species has received a greater amount of study and investigation owing to the fact that a very large proportion of the food products of mankind is derived from from the bovine race.

---

* Reprinted from the Bulletin of the Virginia Board of Health for July.

Koch's discovery having established beyond all question the contagious and infectious nature of tuberculosis, it opened a broad field for scientific investigations, and the starting-point of all these investigations was the complete confirmation of the fact that the bacillus of Koch being the causal agent of the disease, tuberculosis could not start or exist in the absence of its specific germ, and the point was forever settled, that in order for man or any other animal to have consumption, or any other form of tuberculosis, the bacillus of Koch must gain entrance into the system, and there find proper lodgment in order that it may commit its usual havoc. After these facts were ascertained, the questions of paramount importance were to ascertain the general modes of infection, or tranmission from one to another, and the safest and best means of avoiding the dangers of infection.

Hundreds of investigators entered the field of experimentation, and the results of their work have startled and agitated the civilized world. For obvious reasons, the experiments have been confined to the lower animals, but the disease being the same and due to the same cause, the facts ascertained apply in all respects to similar conditions in man and the lower animals.

It has been positively shown by thousands of experiments that the disease is transmissible from one animal to another of the same species, and from one species to another. It has been proven that no matter how the germs may enter the system, whether inhaled, taken in with food, or inoculated,the disease is liable to ensue ; tuberculosis in various forms has been produced in a large percentage of such experiments. A tuberculous animal placed among animals communicates the disease with certainty to animals previously healthy. Milk from an affected cow fed to cats, calves, hogs, guinea pigs, etc., produces the disease in them. Milk from an affected cow inoculated into other animals produces the disease. Sputa coughed up by man and carelessly spit out, has been licked up and devoured by cats and dogs and produced the disease in them.

The certain transmission of the disease from one species to another led to special investigations in regard to the danger of mankind devouring the meat and dairy products derived from the bovine species, and the result of such experiments and investigations is an accumulation of a mountain of facts which furnish conclusive evidence of the positive danger to man from this source.

Dr. Burch in a paper read before the New York State Medical Society, pointed out the fact that in countries like Australia and the Sandwich Islands, consumption among the people did not exist till after dairy cattle were introduced. He also called attention to the fact that consumption prevails in all dairy countries, but does not in countries where dairy products are not derived from the bovine species. He further says: "Morocco, where there are no European dairy cows, is exempt from tuberculosis; while in Spain and Portugal, where dairying is carried on in the European style, tuberculosis prevails."

There are many instances where the disease in man can be directly traced to the infected food, but only a few instances will be given here.

"Dr. Washington Matthews spent twenty-one years among the Indians. He states that their food is the primary cause of tuberculosis among them, and that when the supply of fresh beef is liberal, the death rate from consumption is highest." (Census of 1880.)

"Dr. Treome describes the poor, emaciated, diseased animals furnished to the tribes of northwestern Indians—how they eat the liver, tallow, and entrails, raw and fresh, and how the carcass is dried, pounded, packed in skin, to be eaten later uncooked, even though these animals died of disease. The Indian mortality from consumption is fifty per cent. of all deaths, at several points, while at Crow Creek, Dak., fifty out of the total Indian population of twelve hundred die yearly of consumption and scrofula." The foregoing quotations are from the report of the Massachusetts Cattle Commission, which gives many facts in regard to this question.

Great Britain in 1890 appointed a Royal Commission to inquire and report the effect on human health of food derived from tuberculous animals. The commission reported on April 10, 1895, after devoting nearly five years and spending $90,000 in the investigation of this question. The report of this commission fully confirms the work done by other investigators, to the effect that food derived from tuberculous animals is dangerous and liable to produce the disease. The report says: "No doubt the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter."

Dr. Martin, writing for the commission, says: "The milk of cows with tuberculosis of the udder possesses a virulence which can only be described as extraordinary. All the animals inoculated showed tuberculosis in its most rapid form." Dr. Martin and Dr. Woodhead "had occasion to use milk from a cow that had tuberculous disease in one-quarter only of the udder, and they found the milk from the other three-quarters to be perfectly harmless on inoculation; but the mixed milk taken from the four teats was to all appearance just as virulent as the milk from the diseased quarter. Butter, skimmilk, buttermilk, obtained from the milk of a cow having tuberculous udder, all contained tuberculous matter actively injurious to test animals." This fact shows the extreme danger of using milk from cattle not proven to be positively free from the disease. One or two cows in a dairy may contaminate the milk from the whole herd simply by mixing the milk from the different animals. "Both Dr. Martin and Dr. Woodhead insist that no tuberculous animal of any kind should be allowed to remain in a dairy."

Up to a recent period the opinion prevailed that it was only milk from cows with tuberculous udders that was extremely dangerous, but the experiments of Prof. Ernst, of Harvard University, and many others, have demonstrated the fact that milk from a tuberculous cow may contain the germs, even though the udder is absolutely free from the disease.

"In the case of milk, the Royal Commission were of the opinion that nothing short of boiling would destroy the contagious principle; and it is a well known fact that in boiling milk its constituents are so thoroughly changed that it is not as useful as a food, especially for infants, as that which has not been subjected to this great degree of heat." (Mass. Cattle Com. Report.)

Hence it is plain that the only means we have to insure a safe milk supply to consumers is the inspection of the source of the milk—the cow. The examination of the milk itself would be a farce, for the simple reason that the time required for microscopical examinations and chemical analyses of all milk sold would make such tests utterly impossible and impracticable. We need not fear intentional or criminal adulteration of milk by the dairyman; he will add nothing harmful to human health; it is the cow we must fear, and in order to make inspection of benefit to humanity, the cow should be ascertained to be free from tuberculosis beyond all doubt. Happily for mankind, this is possible and practicable, and is being done all over the world with perfect success. The tuberculin test applied to the cows at regular intervals will enable the disease to be kept out of the herd. People who have no experience with tuberculin may talk against it and argue against it, but their idle boasting, wild statements, and pretended knowledge do not do away with the fact that tuberculin is a reliable diagnostic for bovine tuberculosis, and has been proven to be such in proper hands so invariably that all civilized governments, including our own, employ it in their official work in connection with tuberculosis. Those who profess to be opposed to tuberculin often assert that they can produce a reaction by the injection of any or many toxines, they assert that they can get the same reaction with different chemicals, etc., but they lose sight of the fact that the reaction following the injection of tuberculin only occurs in an animal affected with tuberculosis, and no reaction occurs in an animal free from that disease. But what is the necessity of wasting words about the idle and ignorant babble of people who know nothing about the practical work of the tuberculin test, when it is only necessary to mention the fact that when animals are condemned by the tuberculin test, the post-mortem examination proves that they are affected with the disease ; the fact that veterinarians who condemn cattle as tuberculin indicates are always willing, and even anxious to demonstrate the truth of their diagnosis is sufficient to combat all the nonsensical assertions of those who oppose tuberculin. On the other hand, those who oppose tuberculin would not dare to condemn and attempt post-mortem confirmation on account of a reaction following the injeotion of anything.

Bovine tuberculosis is a question that must be handled as a question of State medicine by the authorities, sooner or later. There can be no doubt of the contagious and infectious nature of the disease, and hence the State and local boards of health should have their powers enlarged to be able to handle the question. In the meantime there is no excuse why consumers of milk should continue to daily run the risk they do now, when it is only necessary for the city council to pass an ordinance creating the office of official dairy inspector, whose duty it should be to test all cows in dairies supplying milk to consumers, and see that no milk is sold which does not come from cows proven to be free from tuberculosis.

Tuberculosis amongst our dairy cattle is not a new disease. For the past eleven years the writer has frequently called public attention to it, and has repeatedly referred to its great prevalence among the dairy cattle of this vicinity. Fully fifty per cent. of the milch cows in this vicinity are affected ; and this estimate is based on facts ascertained in the actual examination of many cows. That the disease is increasing there can be no doubt, and something should be done by the authorities before matters get worse. There can be no doubt that to exclude all the tuberculous cows from our dairies would be a hardship on the dairymen, but it is a hardship that must be faced, because it is a crime, and a fearful one, to allow the infectious matter of this terrible scourge to be daily scattered to our citizens, and fed to innocent children and delicate adults. It is the duty of the authorities to protect the health of the public, and if the mothers of children knew or realized the certain danger they are incurring by feeding cows' milk to their children, they would demand that the authorities take immediate action. No person claims that all cases of human tuberculosis come from cattle or their products, but it is a settled fact that tuberculous meat and milk will cause the disease, and hence it is a question that comes under the head of preventive medicine as a general cause of disease in mankind, and one cause that can be controlled.

It is a great error to imagine that the disease is confined to thoroughbred or high-bred cattle. The disease is to a great extent spread from breeding farms, and, undoubtedly, the thoroughbred cow introduced the disease, but one cow as well as another may contract it from an affected cow, and all that is necessary to spread it is to introduce an affected cow into a stable where there are other cattle, and the disease will spread alike to the high-bred, low-bred, old-field cow and scrub.

Tuberculosis does not confine itself to breeds or families, but the milch-cow is far more susceptible than any other kind of cattle. The breeding-farm is generally a hot-bed of the disease, and the State authorities should take hold of this part of the question at once. All cattle on such farms should be tested, and the affected should be quarantined. Many a dairyman having previously a healthy herd has his whole herd affected by the introduction of a single cow from one of the breeding farms. The public should be protected against infected milk from the dairies, and the dairyman should have protection against infection from the breeding farms.

Bovine tuberculosis is spread by contagion; it is the rarest thing imaginable for a calf to be born with tuberculosis; slaughter-house statistics prove the absolute correctness of this assertion. There can be no doubt that human tuberculosis is spread the same as bovine tuberculosis, and that heredity plays but a small part in the propagation of the disease, but it will be some time before the majority of physicians will believe it. If physicians had the same opportunities for investigation as the veterinarian they would soon be convinced.

After investigating the subject of bovine tuberculosis and referring to the proofs of the small part played by heredity, and the great part played by contagion, Dr. H. Scurfield, in a preface to Nocard's work on "Animal Tuberculosis," says: "It seems not unreasonable to suppose that the same is the cause for human tuberculosis, and that, if the children of tuberculous parents were protected from infection by cohabitation or ingestion, the importance of heredity as a cause of the disease, or even of the predisposition to it, would dwindle away into insignificance."

A vigorous and unrelenting war should be made against animal tuberculosis as one of the great causes of human tuberculosis, and this war should be a campaign of extermination as well as of education.

DISEASES AND INJURIES OF THE FOOT.

By John Scott, V.S., Peoria, Ill.

A Paper read before the Illinois Veterinary Medical Association.

The horse being an animal whose usefulness and value depend almost entirely upon his locomotive powers, and the foot being one of the principal organs of locomotion, demands of us, as veterinarians and humanitarians, that we pay particular attention to the care of it in health in order to preserve it in a natural and healthy condition, as well as to the cure and treatment of it when suffering from disease or injury.

I shall not, however, attempt to enter into a discussion of all the diseases and injuries the foot is subject to (for they are legion), but will only speak of a few of the more common that are encountered in every day practice.

It is not necessary for me to enter into a description of the foot as a whole, nor of its component parts, for these you are all as familiar with as I am. Suffice it to say that there is as much difference in the general appearance, healthfulness and susceptibility to disease among horses feet as there are in different types of horses.

Thrush.—The first of the diseases I will mention is "thrush," an affection characterized by the presence of a dark-colored, fœtid secretion in and around the frog, sometimes very slight, at other times very abundant, attacking and destroying the tissues, causing sloughing of the frog, and accompanied by more or less pain, causing lameness. This affection is nearly always caused by neglecting to keep the feet in a cleanly condition, allowing animals to stand in damp and dirty places, especially in urine and manure, as is often the case, although some horses will become affected without being exposed to such exciting causes. Why it is hard to say. The treatment consists in perfect cleanliness, paring away all ragged and diseased parts, washing the parts thoroughly with a solution of potassium permanganate, or hydrogen peroxide, then filling the cracks with calomel, kept in place by piedgets of oakum or cotton, and repeating as often as necessary.

Corns.—Another very common trouble is "corns." They are the result of bruises, involving the structures of the sensitive sole in the triangular space between the bars and wall at the heel of the forward foot and are nearly always caused by improper shoeing. They always cause more or less soreness and lameness, and sometimes suppuration occurs when the exciting cause has been severe and prolonged. The radical cure is in the shoeing, and if this is properly done corns would be rare indeed. To relieve them when present, pare away the horn to relieve the pressure and poultice the foot to reduce fever and thereby relieve soreness.

Nail Pricks.—These vary from the slight injury which requires little or no attention to those of such a serious nature, that death often supervenes, owing to the excessive local alterations and the sufferings accompanying it. The severity of the injury depends partly upon the nature of the foreign body entering the tissues, but principally upon the particular part or parts involved. Ordinarily all that is required in the way of treatment is to pare away the horn from around the seat of injury to allow the escape of any discharges that may occur, and either apply a poultice or inject the wound with some antiseptic solution, but should the foreign body have penetrated the articulation or injured the bone, then we have indeed a serious case, and one that will tax the veterinarian's patience, skill and ingenuity to the utmost. It would be impossible and absurd for me to attempt to outline any particular mode of treatment that would be applicable to all such cases, as scarcely any two could be treated in the same manner. Two ideas, however, in the successful treatment of such cases are paramount to all others. The first is, to allay the extreme inflammation that is always present. The second to arrest the flow of synovia as quickly as possible. Poultices and warm fomentations are the best agents to allay inflammation, but both tend to increase the flow of synovia, so it is a pretty hard matter for a man to know where he is at, and it is only by judiciously exercising good horse sense that we can be successful. My favorite prescription, after discontinuing the warm applications, to arrest the flow of synovia, is a powder composed of equal parts of tannic acid, dried alum, and gum arabic, applied to the opening, and retained there by pledgets of oakum and bandages, and here another difficulty presents itself in the fact that if the flow of synovia is dried up too rapidly, which this mixture will do, the result will be, the formation of one or more abscesses, which will discharge their contents, mixed with synovia, around the coronary band or heels. Patience and perseverance, however, will generally succeed in healing those. Such cases are always followed by severe and prolonged lameness, which can only be overcome by long rest and repeated blistering.

Navicular Arthritis.—This is an affection seldom met with in horses used for slow work and draft purposes, but is one of the most fertile causes of lameness in the light harness horse, especially among those used in cities. As its name indicates, it is an inflammatory affection of the navicular joint, of the structures entering into its formation, or of both. Various theories, all having their admirers, have been advanced as to the particular part or parts of the joints which are involved in the diseased condition, the causes, etc., some claiming contraction of the hoof, others sprain of the perforans tendon, while others advance the theory that it is due to rheumatoid diathesis. You all know the old saw, "when doctors disagree, who shall decide?" I shall certainly not attempt to, but will simply say that whatever the primary cause may be, the exciting cause is from concussion, caused by hard or fast work, over hard roads or pavements as evidenced by its much greater frequency where such conditions prevail. The symptoms attendant upon its first appearance are generally rather obscure, and may be said to be both negative and positive, the negative symptoms being the absence of disease or injury to any part of the limb. This being the case, would limit the seat of the disease to the foot, and in the absence of any diagnostic symptoms in that part, it is well to use cocaine, hypodermically administered over the posterior branch of the plantar nerve, which will generally enable us to make a correct diagnosis. If the trouble is of recent occurrence, rest, with the application of a poultice, followed by a blister around the coronet and heels and the use of a shoe with flat toe and raised heels for some time will very often effect a cure. But if the trouble has been present for some time, the safest and surest way to overcome it is by the operation of neurotomy, dividing the posterior branch of the plantar nerve. This will prove successful, I believe, in at least ninety per cent. of such cases.

HEAT AGAINST MICRO-ORGANISMS OF MILK.—Dr. J. Forster, of Amsterdam, has prepared the following table as the result of a large number of experiments on the time and temperature required to destroy the micro-organisms of milk: 131° F. for four hours; 140° F. for 1 hour; 149° F. for 15 minutes; 158° F. for 10 minutes; 176° F. for 5 minutes; 194° F. for 2 minutes; 203° F. for 1 minute.

REPORTS OF CASES.

ANGINA PECTORIS IN A PUG DOG.

By A. Liautard, M.D., V.M.

The affection which is the subject of this communication is, as far as my researches show, very rare in animals. So much so, indeed, that I have failed to find a single case recorded among a large number of veterinary journals at my disposal. In fact, the disease seems so much ignored, in veterinary literature, that, with the exception of Williams, I see no mention of it in any of my French or English books on equine or canine pathology. Is it because, after all, angina pectoris is scarcely an affection proper, that it is more the manifestation of organic internal diseases, or, again, that it is so rare that it has not been recognized, and on that account failed to occupy in veterinary pathology the place that it has in human medicine?

Be this as it may, I must acknowledge that, though I am no longer a beginner in veterinary practice, and, though I have had a large experience in canine pathology, I had great difficulty in arriving at a positive diagnosis, which, to my sad personal feelings, I confirmed by post-mortem, my diagnosis being based on careful comparison made of the symptoms I had the opportunity to observe and those so well described in Pepper's "System of Medicine."

The report of the case may appear long, but my excuse in making it such can be better appreciated in taking into consideration the fact that the subject was a great pet of mine, and that the close observation to which I submitted him, permits me to describe his symptoms minutely, and present some facts of interest in the history of the disease, which I hope may prove advantageous to my *confrères.*

"Punch" was a well-bred dog, about six years old, largely developed, weighing about 13 kilos, with unusual expression of features, playful, far more intelligent than is usual among animals of the same breed, and he had been in my family for some five years, where he was a great pet. He had never been sick, was always ready to play, to enjoy a good run or a long walk.

On a few occasions during the years 1893 and 1894, he showed sharp difficulty in breathing, characterized by the sudden appearance of symptoms of choking, which lasted for a few minutes, but which were readily relieved by strong friction, a kind of massage of the throat. As he was short-necked, and had a very short nose, I attributed the trouble to a spasmodic occlusion of the glottis, and when asked the cause of this trouble, jokingly answered that "he was trying to swallow his tongue." Those attacks never lasted more than a few minutes, and would sometimes not occur for weeks after weeks.

During the summer of 1895 I took him abroad; he was very sea-sick, but arrived safely in Paris, securing lodgment in a fashionable quarter of the gay city, where he was obliged to go up and down four pairs of stairs, two, three and four times a day. At first he made those trips willingly and freely, running both ways without the slightest appearance of disturbance. About the first part of June of this year he seemed to be less willing to go out. One trip in the morning, another in the evening, were about all that he cared to make; and, if called out more, it was not with the same gaiety that he would allow his harness to be put on him. He began also to get tired quicker in his walks; going upstairs became painful to him, and often he would take a rest when half way in his ascension. At about this time, when returning from a walk, or even during the day, he would lie down on his left side, somewhat restless and resting his left ear on the floor; which made me suspect that he had some earache, perhaps an incipient catarrh. A little oil of almonds, with laudanum, introduced with a little cotton, in the ear, would at first give him relief, but soon this proved inefficacious and the ear remaining perfectly clean I looked for another explanation of the trouble. I then examined his teeth; they were in fair condition; he had a certain odor from the mouth; but as he was so restless and strong, and being unable to examine him to my satisfaction, and suspecting a carious back tooth to be the cause of his evident pain, I took him to Alfort, where his teeth were found healthy and his ailments attributed to rheumatism.

By that time the symptoms had assumed a very severe aspect, the disease made rapid progress, and all its manifestations were easily recognized. Sometimes starting from the house gay and lively, he would go down-stairs well, run or walk a short distance as usual, and then, of a sudden, his neck would begin to swell, his body arched, his tail hanging down, walking with his head down stiff; a general stiffness all over, but more marked in his foreparts, panting severely, roaring loudly, with his tongue bluish and protruding, saliva flowing from the mouth. If he had a chance to lie down he would do so in a semi-sternal position, with his body *always* inclined to the left and his head slightly twisted, resting flat on the left ear. He would then stay for a few seconds, then get up, move about in great agony and lie down again; the whole front part of his body, principally the muscles of the neck, seemed to be stiff and hard, and yet they could be rubbed hard without any manifestation of soreness or pain. If one tried to raise him by his forelegs he sometimes screamed with pain. On one occasion I raised him by the hind legs; he also screamed with agony. These spells, which at first lasted but a short time, soon increased in severity, and took between one and two hours before everything would gradually subside and left him exhausted. In the beginning he had but one, then two, and later on three and four attacks a day. Occurring after exercise, they soon even took him while at rest, in the room, during his sleep. The slightest excitement brought it on sometimes.

One morning, when he was lying near my bed, I had an opportunity to watch him—stretched on his left side. I observed that during his sleep, he had twitching motions of one foreleg (the left), then the hind legs began to move by jerks, the neck also became affected; during his apparent sleep he was constantly lapping with his tongue in and out of his mouth. After an hour of this condition he suddenly got up, moved about, ran under the pieces of furniture, moaned and grunted, and there came all of a sudden the fearful manifestations of choking, which made his general appearance so frightfully painful.

His general condition of health was so good when free from his paroxysms, his appetite so good, my inability to recognize by careful auscultation any organic trouble of the thoracic organs, made me unwilling to entertain the idea of an incurable disease, and I placed him under the various forms of treatment (palliative, it is true) recommended in human medicine. At first the inhalations of nitrite of amyl seemed to give him some relief; chloric ether, belladonna, digitalis, cocaine, local applications—all were used, but none gave a satisfactory or permanent result.

The symptoms kept on increasing in severity; he was no longer willing to walk, he had to be carried up and down those stairs which a few weeks before he so gaily paced and ran; he no longer was willing to run on the long balcony, which he had so much enjoyed; he feared to have the slightest excitement.

I was brought to the sad but imposing obligation to destroy him. I chloroformed him—one of the most painful acts of my long veterinary experience.

My diagnosis of angina pectoris, due to cardiac affection, was confirmed by the post-mortem examination I made of him. With a perfectly healthy anatomy, his heart was hypertrofied nearly twice as big as normal size; the walls of the right ventricle were soft and flabby and the valves of the two auriculo-ventricular openings the seat of comparatively large granular deposits.

BARIUM CHLORIDE.

By Robert W. Ellis, D.V.S., New York City.

Having read several scientific articles on the use of barium chloride, in the veterinary journals recently, none of which seeming to *positively* recommend its use heartily in every day practice, but all seeming rather chary about so doing, and having met several of my *confrères* who seem to have so profound a respect for it as to leave it severely alone and be quite content with talking about it, I feel as though a few words as to its practical use would not be amiss, and might encourage the few who have not already adopted its use, to do so.

Having used barium chloride on about three dozen cases of flatulent colic of the worst order (those met with in large draft horses) and on quite a number of cases of milder form among the lighter order of business horses, with uniform success, and not having a single result from it to regret (although on many occasions almost no opportunities for asepsis were practicable) I feel that I cannot speak too well of it.

As I find occasion to use it almost every day at least once and sometimes several times, I carry with me at all times four drachms of a twenty-five per cent. solution, so that when occasion demands its use, I can, without delay, inject one drachm into the jugular, having first (if the time and the position of the patient permits) clipped and antiseptized the seat of injection; if, on the other hand, neither time nor the patient's position permits of the more thorough process of clipping and cleansing, I simply saturate the hair over the seat of injection with a mild carbolic solution before injecting.

While I thoroughly appreciate the fact that it is a veterinarian's duty to his patient, his client and himself to exercise cleanliness on all occasions, and to conduct all operative procedures (no matter how simple) as nearly on aseptic principles as is consistent with practicability, yet I must admit that on a few occasions, when I have not been able to use aseptic measures in the introduction of barium chloride into the jugular, when I have felt sure that I would lose my patient without its use, I have injected it and taken the chances, with no worse result than that of a slight swelling around the point of injection the day following, which is preferable to a cadaver in place of the patient, especially as on each occasion when this swelling has appeared it has yielded readily to an application of cantharides ointment. In the great majority of cases, however, where the ordinary antiseptic precautions are used, no swelling whatever appears at the seat of injection, or anything to indicate that an injection has been made at that point.

Another point in favor of the use of this compound is, that there is no weakening of the animal by its use, such as is experienced with eserine and pilocarpine, and you do not have to witness the distressing symptoms of the severe straining and salivation caused by the use of those drugs.

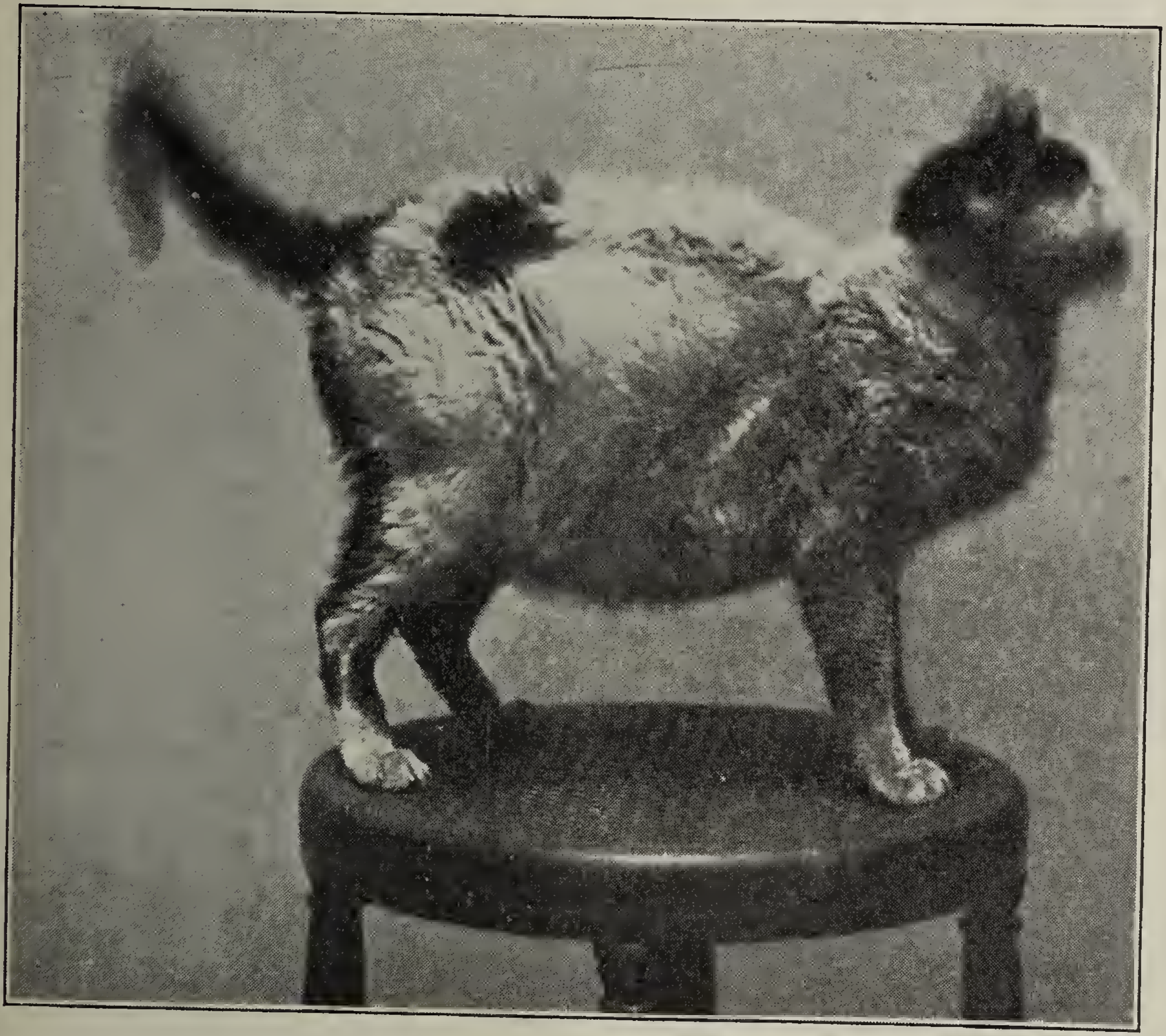
Then, too, the action of barium chloride is more prompt. With eserine and pilocarpine as it is generally used, hypodermically, you wait forty to fifty minutes and sometimes longer; with barium chloride you are gratified by witnessing a movement in from two to seven minutes, according to the severity of the case. It is easily prepared, so as to have it always ready for use, its cost is nominal, and from every standpoint it recommends itself to me as a remedial agent, not for scientific articles alone, but for everyday use in practice, with no drawbacks (compared with its many advantages) in the hands of veterinarians exercising ordinary antiseptic precautions. I do not mean to convey that in my mind this compound takes the place of all other drugs in the treatment of flatulent colic, but that it is a wonderful addition to our present methods of combatting this class of cases; and often saves us the use of the trocar and lessens to a great extent the number of deaths by flatulent colic prior to its use.

In the treatment of the cases spoken of and of the large draft horses, my first procedure has been to inject the barium chloride, then immediately give two ounces of chloral hydrate (dry) in gelatine capsules, then deciding whether the condition of the animal warranted my waiting for the action of the medicine administered (and in the majority of cases I was able to wait long enough for the barium chloride). If, however, I decided there was not time to wait, I punctured and got the immediate relief therefrom, the barium chloride following up with its action a few minutes later, and rest and sleep soon resulting from the chloral hydrate, the cases terminated favorably.

TWO RARE CASES OF ASCITES.

By CHAS. W. HEITZMAN, M.D.C., New Orleans, La.

The first occurred in a male cat, the accompanying photo giving a definite idea as to his appearance. Paracentesis abdominis was performed, and about one quart of clear amber-colored fluid removed. "Arsenamo" was exhibited in five (5) drop doses four times daily with decided beneficial results, the cat regaining its appetite and spirits. However, at the end of three weeks the abdomen began to enlarge, and the patient was destroyed. Post-mortem revealed hypertrophic scirrhosis of the liver, and the calibre of the entire intestinal tract considerably diminished. The coats of the intestines were very considerably thickened and indurated.



The second was a thirteen-year-old mare, which was thought to be suffering with flatulent colic. Upon examination I diagnosed it as as a case of ascites, with an unfavorable prognosis. Questioning the owner, I ascertained that the animal had a large abdomen when he bought her, some eight or ten years previous, but did not notice it increase to any marked degree until quite recently. He thought she had colic. The animal was down, apparently unable to arise. After administering several doses of stimulants, I succeeded in getting her on her feet. Tried to persuade the owner to have her destroyed, so I could hold a post-mortem. He demurred, so I prescribed a tonic treatment. Appetite voracious, secretions seemingly normal. Three days later was again called, and found the mare down, unable to arise, and all efforts to get her up proved futile. In addition to the abdominal enlargement the hind limbs were swollen, also mammary glands pitting under pressure; appetite, etc., still good. Again advised destruction. Owner wished to know if water could not be removed; was answered in the affirmative, but as I could not see any possible benefit to be derived from it, declined to operate. Left her, with the understanding that should she die I would be notified. An hour later another veterinarian was called, who tapped her. Next morning I held a post-mortem. Found a chronic thickening of the peritoneum, with numerous excrescences of various sizes on the surface. Abdominal cavity full of serum, in which floated any amount of broken-down tissue. The other organs, heart, liver, kidneys, etc., so far as I was able to determine, betrayed no indications of disease.

PROLAPSUS ANI ET RECTI.

By W. L. West, V.S., Ellsworth, Me.

June 22, I was called to see a four-year-old, which had been turned out to pasture.

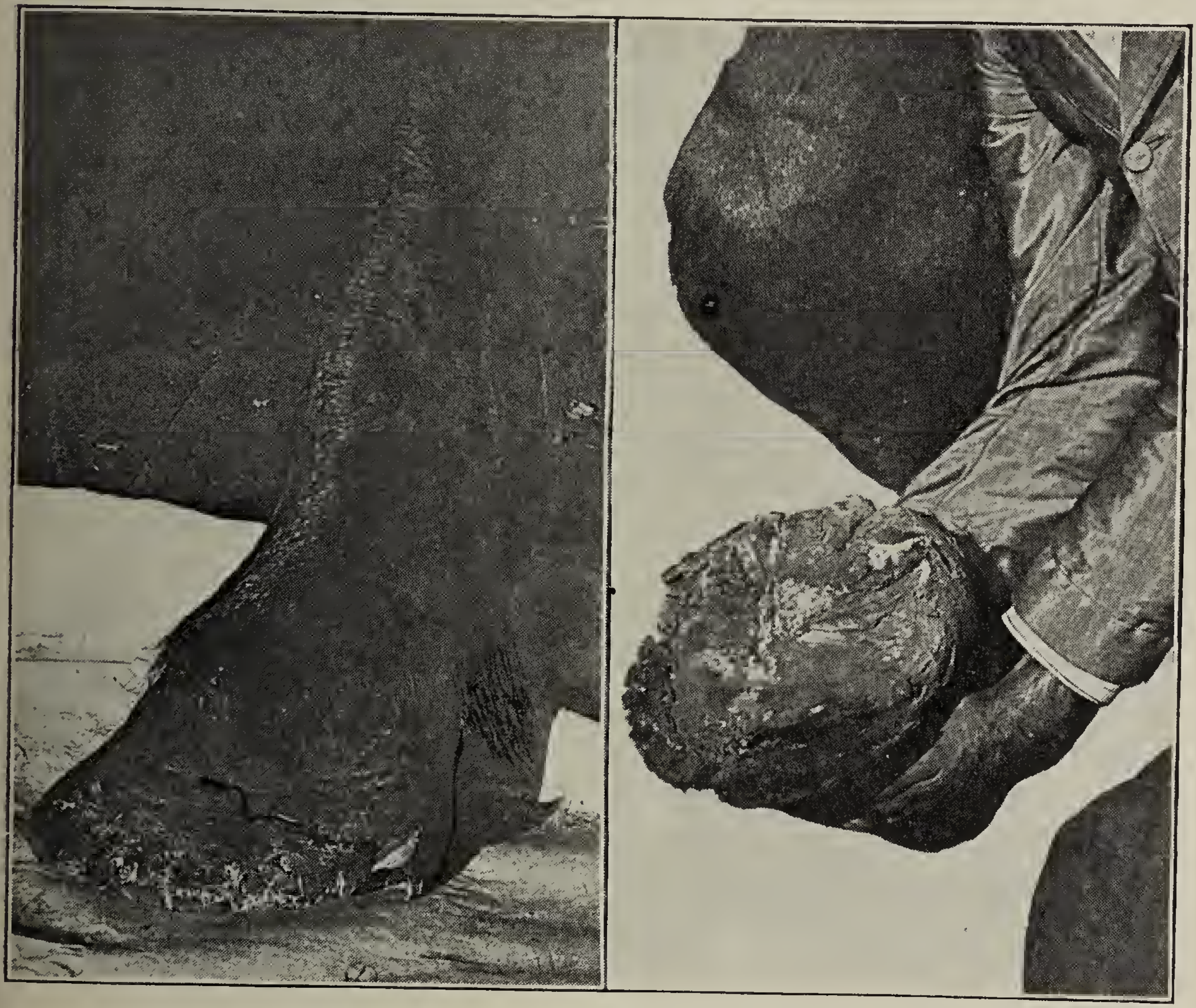
Subject and History.—Brown gelding, 15 hands high, weighing about nine hundred pounds, four years old, and had been in pasture three weeks and seemed all right until the day before I was called, when the attendant noticed the rectum protruding, and next day notified me, and I found the rectum and anus prolapsed. Upon the rectum (the mucous membrane) were ovoid enlargements resembling hæmorrhoids of purple and congested appearance, and around and between these were minute ulcerated spots. Otherwise the colt appeared nearly normal, with the exception of many blotches upon the sides and abdomen.

Treatment.—Bathed the parts thoroughly with a 1-to-30 solution of creolin, to which was added one ounce to the quart, of laudanum. Reduced the prolapse and ordered patient to be kept in a narrow stall, with posterior parts higher, and fed on sloppy food, with injections of half a pint of foregoing solution twice daily per anus.

The case made a good and uneventful recovery, but I am still undecided as to the cause. I attributed it to stings from bees or other insects.

EXTENSIVE DISEASE OF THE FOOT.

By George A. Clark, M.D.C., Stoughton, Mass.



The history of this case is as follows: The animal was purchased at a sale stable, and was sold with the understanding that he could not travel on pavement, as he had a flat foot, but might go in the country. His present owner bought him to run on an ice wagon in the country. About two weeks after purchase he came to me and said the horse flinched and kept pointing. I looked at the foot and ordered the shoe off, thinking I might get at the cause of the crack shown in the accompanying photo. The crack began practically at the quarter and ran as indicated in the photograph. You can imagine my surprise upon removal of the shoe and leather to find the large cavity in the foot indicated by the dark spot which I have lined out. It reached from the toe almost to the quarters, and ran up between the sole and the shell three and a quarter inches by measurement. What surprised me most was why the horse did not travel dead lame. I put a clamp on the hoof to keep the horn from cracking more, and on the foot I put a bar shoe, with a broad piece running from the toe almost to the bars, just enough to support the sole, which was badly dropped and almost worn through. He went, so the owner informs me, all right for two days, then began again to flinch, only not so much as formerly.

EXTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

Tuberculosis of the Horse [*By A. Cartwright, Esq.*].—This is the case of a six-year-old pony, which showed all the familiar symptoms of a severe attack of strangles, accompanied towards the end by colicky pains, suggesting the probability of some abdominal complications. After six months of observation and treatment, the animal was destroyed, and at the post-mortem the liver and spleen were found to be the seat of numerous hard, whitish, dry deposits of tubercular nature. All the other organs were healthy.—(*Vet. Journ.*)

Diphtheritic Condition of the Urinary Bladder [*By Mr. H. Sisarry*].—At the post-mortem of a cow that died from complications following parturition, all the organs were found healthy with the exception of the bladder, which presented a very peculiar appearance. It contained about a quart of black fluid, its walls were greatly thickened and were covered by nodular masses; on scraping these a blood-stained membrane was detached, showing ragged-looking ulcerous patches below.—(*Ibid.*)

Fracture of the Premaxillary [*By Mr. J. M. Stewart*].—This was an interesting case, on account of the manner in which the accident occurred and with the rapidity recovery took place. The subject was a carriage horse, had injured his mouth with the rack chain with which he had been playing, and while having the chain in his mouth one of his teeth got fast in a link and he only got it free after much struggling.

The result was a fracture of the left half of the body of the premaxillary, carrying with it three incisor teeth. After a good deal of manipulation, the bone was pushed back into position, and all the incisors held in place by stout copper wire, twisted firmly with a pair of pliers, the ends being further twisted around the left tusk; the animal was kept on soft diet only for a week. After that hay was allowed and in four or five weeks recovery was complete.—(*Ibid.*)

BARIUM CHLORIDE [*By Mr. J. J. McCarry*].—These are the results obtained by the use of barium chloride in experiments established to test the value of Dieckerhoff's discovery. In all the observations gathered of the intravenous injection of a solution of the chloride, it appears that its actions upon the bowels were followed with the same results, viz., evacuation from the bowels of more or less fæcal masses, with colicky manifestations. The last case is one of a mare which was suffering with colic, and to which, on account of her being pregnant, had only received the ordinary form of treatment of colic. Failing to relieve her with them, the author gave her at last an injection of 15 grains of chloride in 5 c.c. of water, into the jugular, and obtained relief in less than an hour.—(*Ibid.*)

HYPERTROPHY OF THE PROSTATE GLAND [*By Mr. J. A. Nunn*].—Though this affection has been observed frequently in dogs, it has not been in horses. The author has, however, reported one case already in an aged gelding. This time, his second case, though lost sight of, is interesting. There was no previous history to be obtained, but the present owner said he was suffering with difficulty in urinating, which was kept dribbling away from him for a considerable period, alternating with a regular gush of fluid. A calculus was suspected, but on attempting catheterization, the instrument was stopped in the prostatic urethra, and no reasonable amount of force could get it further. Rectal examination showed hypertrophy of the middle lobe of the gland, which was greatly enlarged. Although carefully searched for, no trace of a calculus could be discovered in the bladder, which was empty.—(*Ibid.*)

A WANDERING TOOTH [*By J. Paton and J. Dunlop*].—In the *Veterinary Record*, the authors report another instance of the possible growth of a tooth outside of the walls of the buccal cavity, outside of the maxillary bones. This case was in a yearling which presented a large abscess in the temporal region in front of the left ear close to the scutiform cartilage. The abscess was opened and the tooth extracted. It was the ordinary size of a temporary molar. From the fangs to the highest part of the cutting surface measured one inch. The fangs, three in number, seemed half absorbed, having a rounded, smooth appearance. The cutting surface was very irregular, much higher on one side than the other, the lower part being made up of small protuberances covered with enamel.

A PECULIAR PHARYNGEAL CASE.—Under this heading, Prof. J. McI. McCall relates a very peculiar case of laryngo-pharyngeal difficulty, accompanied with symptoms of purpura, for which tracheotomy had been performed and presented the singular symptoms of being unable to swallow liquid or solid; whenever he took drink there was a steady stream of water or thin gruel flowing from the tube, and yet the horse would never cough during the process, and only occasionally coughed after the stream had ceased to flow. The case terminated, however, satisfactorily, as the animal was kept up by nutrient enemata per rectum, of beef, of milk and eggs, administered every two hours, with local applications of medicated poultices to the throat. A week of treatment brought him to a state of convalescence.—(*Ibid.*)

GERMAN REVIEW.

By W. V. BIESER, D.V.S., New York.

A CONTRIBUTION TO THE DIAGNOSIS OF TUBERCULOSIS [*Abeau*].—By the bacteriological examination of the blood and various organic fluids, especially the seminal fluid, the author has succeeded in diagnosticating diseases, bacterial in origin, especially tuberculosis. Koch and his pupils assert that his (Koch's) *bacillus* is the exclusive characteristic of and the cause of tubercular lesions. Cornil and Babés deny this for the following reasons:

(*a*) Spina recognized a great variety of forms of bacteria in tubercular lesions.

(*b*) Toussaint found immobile *micrococci* in the tubercular lesions.

(*c*) Cornil and Babés have in their investigations found both in the secretions and upon section, minute *nodules* which stain similarly to Koch's bacilli.

(*d*) Klebs doubts whether Koch's bacilli are the sole cause of tuberculosis and believes that certain *granulations* similar to those found in recent miliary tubercles, likewise cause tuberculosis; both cause tuberculosis, according to Klebs.

(*e*) Molassez and Vignal have, while investigating certain pathological changes caused by tuberculosis, found no bacilli in the pathological areas, but on the contrary, "zooglöe of micrococci" difficult to stain, which inoculated in guinea pigs caused general tuberculosis.

(*f*) New cases of tuberculosis induced by inoculation with "zooglöe of micrococci" have been published by Chantemesse, Grancher, and Ledroux have likewise discovered in lesions containing "zooglöe" ovoid "cocci" and short rods.

Cornil and Babes say, if the tubercle bacilli of Koch are invariably present in tuberculosis of the lungs, in most cases of tuberculosis of the liver, spleen, kidneys, etc., ought they not, if they are the cause of tubercular lesions in general, also present in localized tuberculosis, viz., white swelling of joints, caries of bone, cold abscesses, strumous glands, and lupus. C. and B. have only once, in many sections made from specimens of twelve different cases of lupus, found Koch's bacillus; not being satisfied with this demonstration they have made a series of inoculations with lupus specimens, and were unable to find any bacilli in their inoculation cultures. Furthermore, say C. and B., in chronic or fibroid phthisis of very slow progress, Koch's bacilli may not be demonstrable in the diseased areas; but the failure to find them with the microscope may give way to success as a result of a series of inoculations of culture mediums, in which they may finally show themselves. In this case we must conclude that the bacilli must have been present even though microscopically invisible, or else that they were present in the form of spores in the affected areas, which spores changed their character and became bacilli only after a series of inoculations of culture mediums.

Nocard and Roux found bacilli in the sputa shorter than Koch's, often accompanied by ovoid swellings called spores by Koch.

One is therefore compelled to admit that other micro-organisms than Koch's bacilli can cause tubercular lesions, and that a variety of lesions may be present in tuberculosis which contain few or no bacilli at all; all of which facts make us doubt the entity of the morphological character of the micro-organism of tuberculosis inasmuch as the organism has been found by C. and B.; (1) in the state of "zooglöe"; (2) in the state of "coccobacteria"; (3) in the state of "coccotrix" (granular rods); (4)

in the state of "bacilli"; (5) in the state of "filaments," viz., in five chief forms or states.

Lately the author has inoculated guinea pigs with 6-10 drops of blood, containing micrococci, cocco-bacteria or zooglöe containing not the slightest trace of bacilli, and has always caused general tuberculosis as a result of the inoculations; furthermore, the author has diagnosticated tuberculosis from the mere fact of the presence in the blood and spermatic fluid of micrococci or zooglöe, which diagnosis has later been confirmed clinically.

Hence the author asserts the polymorphological character of the micro-organism of tuberculosis.

The varieties of bacteria above-mentioned may occur singly or aggregated together. The form of micro-organism seemed to the author to depend upon the medium and upon the question of the absence or presence of air; for example, cold abscesses removed from the air, showed pure or almost pure zooglöe, whereas the sputa always showed pure or almost pure bacilli. Author says almost pure bacilli, because the author, like others examining many specimens of sputa, found filaments also in sputa, ten times as long as bacilli but with the same staining qualities. In intestinal tuberculosis the author found the bacilliary form. One may say that bacilli are present here because secretions containing bacilli get there by being swallowed; but sections of gut lesions below the surface also contain bacilli. In cutaneous or subcutaneous tubercular abscesses, glandular swellings, the author found chiefly zooglöe of micrococci, rarely bacilli or filaments.

Staining the Bacteria.—We stain our specimens blood or seminal fluid with carbolated fuchsin of Ziehl, keeping them at a temperature of 60° for 2 hours, wash them for a few seconds with alcohol, then in water to remove the last trace of alcohol, and allow the penetration of 30:100 (preferable to 10:100) nitric acid solution, preparations are again washed in distilled water and repeat the former until the specimen shows a hardly visible light-red color. Then we bathe the specimen in a weak solution of methyl blue. By avoiding mixture of the alcohol with the acid and by the use of the stronger acid solution the micrococci and zooglöe retain their color; these show in brick-red colors, whereas bacilli show dark-red. If staphylococci are present they show blue-colored. It is impossible to mistake the coccotrix (or granular rod) of tuberculosis for a chain of streptococci. By this method we have easily found micro-organisms in the blood as soon as tubercular disease manifested itself in the testes, intestine, spine, etc., we found zooglöe of micrococci, coccobacteria, never filaments; definite colored or living bacteria very seldom. From this standpoint, the blood specimens which we have examined have an extraordinary interest, inasmuch as we have found microbes (1) in cases of clinically substantiated cases of tuberculosis, (2) in cases of clinically healed tuberculosis, (3) in cases of latent tuberculosis, *i. e.*, in patients who having the tubercular diathesis give no clinical evidences of tuberculosis. In the spermatic fluid we have found zooglöe, coccobacteria, and bacilli. The bacteriological examination of the sperma is easier than that of the blood and often of greater importance; for we have found micro-organisms (zooglöe, cocci, and bacilli) in the sperma of patients, whose blood frequently examined showed no microbic elements; we are speaking of course of patients showing no evidences of inherited tuberculosis.

The importance of differentiating between the finding of organisms in blood on one hand and spermatic fluid on the other must not be forgotten. The blood is not culture medium, merely carrying micro-organisms with it which it meets in its circulation. The spermatic fluid, on the contrary, is an ideal and favorite habitat for micro-organisms of other chronic diseases besides tuberculosis.

The microbes circulate merely in the blood but live in spermatic fluid. The presence of microbes in the blood means that somewhere in the body a focus of infection exists which sends microbes into the blood. The presence of microbes in the blood may, however, suffice to furnish an early diagnosis of tuberculosis before any noticeable clinical manifestations ensue. We can point out many cases diagnosticated early as tuberculosis through blood examination whose only symptoms were anæmia or disturbances of digestion, that proved to be tubercular afterward. The presence of microbes furthermore in the blood may help in the diagnosis of doubtful cases. The presence of microbes in the spermatic fluid, however, is of far greater importance, as it throws a new light upon the transfer of the microbe from father to child, not only in tuberculosis, but in syphilis, etc. Therefore to the author there is no doubt on this point, that an infected parent can inoculate the ovum at the time of fecundation.—(*Oest. Monatschrift f. Thierhlk. und Revue.*)

EQUINE VOMITING [*Martin*].— Equine vomiting as well as its connection with abdominal lesions has always been an interesting topic. The queries: Why does not the horse ordinarily vomit? Can the horse vomit irrespective of abdominal lesions? What lesions especially conduce thereto and wherefore?—are all disputed points whose solution may be arrived at clinically rather than through any other ways. A 23-year-old mare—previous health good—fed chiefly upon grass and soft boiled potatoes, pulled a loaded wagon to market eleven miles away, was then stalled for five hours, during which times she was copiously supplied with oats. Upon the return of the journey, greenish matter discharged itself—using the owner's words—every five minutes from each nostril. Upon her reaching her stable, the author was sent for, who found the mare with legs outstretched, anxious facial expression, but with no evidence of marked pain anywhere; after 3 or 4 minutes a wineglassful of strongly smelling greenish fluid poured out of each nostril, doing so without any apparent effort at retching or straining on the part of the mare. The pulse was very rapid and weak, 65, the membranes injected. The author diagnosticated vomiting as a result of rupture of the stomach. The locality being remote, the author had to content himself with the remedies at hand; he therefore ordered a mustard plaster to the abdomen and ʒ ss brandy in ℥ i water, which remedies to his surprise seemed to stop the vomiting for 6 hours, at the end of which period the vomiting recurred but less frequently and in smaller quantities; slight tremors then seized the animal, the other symptoms grew worse, viz.: face became more and more pinched and anxious, pulse weaker and weaker, and death ensued quietly about 24 hours after the first visit. The autopsy showed extensive tears in various directions in the wall of the stomach; the wall of the stomach was very thin; food was scattered all over the abdominal cavity; evidences of acute peritonitis were present; judging by the stage attained by the inflammatory process the rent must have been a recent one, say of 24 hours duration at least. The interesting points of the case were: 1st, the early onset of the vomiting, it having made the farmer first aware that something was amiss; 2d, the ease with which the vomiting occurred, it seeming to be as easy as ordinary swallowing.

The lesion was such as was to be expected from the nature of the case. A very old mare, in whom the walls of the stomach had thinned out both as the result of old age and the nature of the food, was suddenly made to perform extraordinarily hard work, was then fed copiously with oats, then made to journey homeward over a distance of eleven miles. The stomach failing to digest the oats, fermentation with dilatation of the stomach ensued, which dilated stomach being squeezed between the diaphragm and the vigorously worked abdominal muscles, ruptured from inability to stand the pressure.—(*Oest. Monatschrift. f. Thierhlk. und Revue.*)

FRENCH REVIEW.

UMBILICAL HERNIAS--TETANUS AND ANTITETANIC SERUM.—For a number of years, the author, Mr. P. Dieudonné, has lost a number of cases (generally three out of ten) on colts that he operated for umbilical hernia, no matter what method he employed; of late he has had recourse to the injection of antitetanic serum and obtained results which confirm the value of this vaccination as a prophylactic measure. He relates an instance when having operated with success on one animal, he lost a second where he had no serum to inject, while a third colt, also inoculated, escaped the fatal sequela.—(*Rec. de Med. Vet.*)

ABSCESS OF THE INTRA-VENTRICULAR SEPTUM IN A COW [*By A. Quentin de Serrancourt*].—This is the case of a Flemish cow, which after recovery from a large abscess on the left side of the thoracic cavity, died comparatively suddenly, and at the post-mortem revealed a purulent collection of the size of a small egg in the muscular mass of the coxo-femoral joint, and exposed by chance another larger one in the thickness of the intra-ventricular septum.—(*Ibid.*)

CERVICAL ŒSOPHAGEAL JABOT—RECOVERY.—A rather unusual case, recorded by Mr. Roy, which occurred in an eight-year-old horse, and which was attributed to its gluttonous appetite, bolting his food at each meal without mastication. Comparatively of recent date, and located in the lower third of the neck, where local pressure could be applied, the author made a kind of truss which was adapted to the region and held in place by straps secured to the surcingle. To this local treatment a special régime was directed, consisting of food divided or crushed. Local astringent applications were also applied. Removing the apparatus after eight days, at first it seemed as if the enlarged œsophagus had returned to its normal proportion. This was, however, an error, as after the first ordinary meal the jabot returned with all its primitive aspects. The apparatus reapplied and left on for two weeks longer was followed by a complete recovery, with a little cicatricial band, easily perceptible, alongside the tract of the œsophagus.—(*Ibid.*)

A CASE OF CARIES OF THE INCISORS IN A HORSE [*By H. Cornevin and Lesbre*].—This common disease of the molars seems to be very rare in incisors, and the literature on the subject is exempt from mentioning it. This case was sent to the authors from Chili, and was well characterized. Starting at the neck of the teeth, it extended deep on the labial faces, and was more marked on the central than the lateral teeth. The caries spread up to the table but this remained unharmed. On the buccal surface the diseased process was still limited. The roots remained healthy.—(*Journ. of Zoötech.*)

RUPTURE OF THE RECTUM IN A HORSE WHILE CAST [*By M. Porchevel*].—Among the accidents met in casting, rupture of the rectum is not very common. In this case the animal, thrown to be fired for a spavin, was cast according to the classical rules, and with the best of care. During the operation he struggled two or three times. Towards its end, after a violent contraction, a red cylindrical mass protruded through the anus: it was the inverted rectal mucous membrane. The animal was made to rise and the hernia reduced, but another effort of the animal pushed it out again, it tore and allowed the floating colon to pass through the laceration. The animal was ultimately destroyed. At the post-mortem it was found that the laceration of the entire thickness of the rectum existed about 15 inches from the borders of the anus, on the inferior wall of the rectum, and measured about ten inches in length.—(*Ibid.*)

TUBERCULOSIS OF THE RACHIDIAN CANAL IN A COW [*By M. Morot*].—This is the relation of a post-mortem made on an animal affected with generalized tuberculosis, in which the lungs, the bronichal and mediastinal glands, the liver and the spleen were found to contain numerous tuberculous deposits. When the carcass was dressed and cut in its entire length, an extensive tuberculization of the second dorsal vertebra was exposed, spreading more on the right than on the left. The spongy part of the body, of the annular part and of the spinous process was extensively infiltrated with tuberculous substance; it is a greyish substance, more commonly yellowish, constituted by tuberculous granulations. The calibre of the rachidian canal is somewhat modified. There were no other lesions in the bony system. During life it had been observed that the animal was difficult to fatten, ate well, had difficulty in getting up, and it was only with great efforts that she was able to stand. Very often she carried her neck on the side. It is the second case the author has met in his practice.—(*Rev. Veter.*)

A CASE OF VOMITING IN THE HORSE.—M. G. Viand records in the *Revue Veterinaire* this case of a filly which during a severe attack of violent colic, gastric indigestion, vomited at three or four different times a mixture of partly crushed oats and glairy mucous. These expulsions took place both from the mouth and through the nose *almost without contraction.* At the end the animal coughed a few times, as if to clear her windpipe, and was entirely relieved. The case shows once more that vomiting can take place in the horse without rupture of the stomach.

MULTIPLE SYNOVITIS OF THE ANTERIOR BIPED OF A HORSE [*By Mr. Sicard*].—Under this heading the author reports a case, evidently of rheumatoid nature, of a young horse which, first affected with lameness of the right shoulder, was some months later taken on both fore feet with symptoms characteristic of rheumatism, all the articulations and synovial structures being more or less affected. The animal was submitted at first to mild treatment of local sedative applications, of setons in the shoulder, and the administration of diuretics, but did not show any improvement until the entire lower part of the extremities were fired. Some 400 points of firing were applied from the knee down to the coronet, and the first effects of the operation having subsided, the lameness disappeared in two weeks, and the animal resumed his work.—(*Rev. Vet.*)

PHARYNGO-LARYNGEAL ANGINA.—In the June number of the *Revue Veterinaire*, Mr. G. Viand records the case of an animal affected with distemper, which showed the symptoms of pharyngo-laryngeal angina with such severity that tracheotomy had to be performed at once. This was followed by the administration of gargles, made of water and alcoholate of iodine. Two of these were sufficient to bring on a well-marked improvement. Nasal douches of cresyled water were administered in connection with the gargles.

TEARING OF THE EXTERNAL PROJECTION OF THE FEMORAL CONDYLE—CONSECUTIVE ARTHRITIS.—A Norman horse when lying down is suddenly whipped by a driver and by violent effort attempts to jump, misses his footing, falls on the right side, but at last succeeds in standing. He is lame for a few days and then his walk is normal. Two or three months later, the attention of Mr. Dupont is called to him, who finds that the horse is very lame with an acute arthritis of the right femoral tibial joint. Notwithstanding the repeated applications of blistering mixtures, the case rapidly grew worse, constitutional disturbances manifested themselves, and he died in a state of marasm. At the post-mortem two bony pieces of the size of small chestnuts, fragments of the external projection of the right condyle of the femur, were found on the upper part of the patella and by their presence had given rise to the development of the acute-arthritis whose lesions were well marked.—(*Ibid.*)

ITALIAN REVIEW.

TREATMENT OF QUARTER-CRACKS BY FIRING [*By M. A. Girotti*].—This process consists in making transversal lines on the hoof, as already recommended in France. Employed by the author, he has obtained the best results, which permitted him to work after a few days a donkey which had a complete quarter-crack on the left fore foot, from the edges of which oozed blood and pus.—(*Moderno Zooiatro.*)

AMPUTATION OF THE UTERUS IN A COW [*By M. Manfredi*].—Though this operation is seldom successful, the author reports a case where the cow recovered entirely without even showing any pain during the operation. Before the amputation proper, two ligatures, embracing each half of the peduncle of the uterine mass, had been applied at four centimetres of the vulva, and had been completed by a ligature of the whole mass. The treatment was completed by injections of creoline at 3.7, and the recovery obtained after a few days.—(*Ibid.*)

CONTRIBUTION TO THE STUDY OF CANINE TUBERCULOSIS [*By M. Galli-Vaterio*].—Conclusions of a long work on the subject: The bacilli of Koch, in dogs, have a tendency to assume a granular aspect. In some cases, it is impossible to put them in evidence, as they are reduced to the state of simple granules. In these same cases, the tubercles inoculated to guinea-pigs may remain without effect or give rise to a very limited tuberculosis with slow development. In others, as observed by Cadial, fibrous tubercles can be found, indication of spontaneous recovery. The presence of some parasites may promote the development of tuberculosis in some parts of the body, by preparing, through their lesions, a favorable ground for the evolution of the bacilli of Koch, or by carrying the specific bacilli in their migrations, as observed by Piana for the pisiform cysticercus of rabbit. The tuberculous bacillus, after passing in the dog, can be injected in large quantity in the peritoneum of another dog, without he contracting the disease, a proof of its resistance towards tuberculosis.—(*Ibid.*)

THE MICRO-ORGANISM OF DOG DISTEMPER [*By M. G. Lisi*].—The author has searched in the spinal cord of a dog affected with paraplegia, the pathogeneous element described by Galli-Vaterio. By cultures and inoculations he has found a micro-organism which did not have all the specific characters of that of G. Vaterio, and he believes that this micro-organism of dog distemper has no constant biological characters.—(*Ibid.*)

RESEARCHES UPON THE MOST COMMON CAUSES OF STERILITY IN COWS [*By Mr. A. Fiorentini*].—These were made upon 50 uteri of cows, sold on account of sterility. In a third of those, the author found catarrhal endometritis with degeneration of the epithelium and proliferation of some points of the mucous, which had a warty appearance. The fluid contained in the uterine cavity contained a micro-organism, oval in form, presenting some analogy with the *B. coli.* It differs from it by giving yellow colonies, by liquefying gelatine and not being pathogenous to the guinea pig nor the rabbit. In the other organs, there were interstitial granular, septic, tuberculous metritis and cysts of the ovaries, of the uterus or of its neck. From these observations, the author believes that these various affections of the uterus can be avoided by repeated antiseptic washings of this cavity, during the days following parturition. In cows already diseased, which most all become nymphomaniacs, there would be advantage to perform castration, which would promote fattening and permit of sending them to the butcher in remunerative conditions.—(*Giorn. Dello R. S. and Acad. Vet. Ital.*)

FEEDING ANIMALS WITH FLOUR OF COCOA.—The flour is made of dried cocoa-nuts. It is given in five times its weight of water, after soaking twelve hours. Dry flour cannot be digested. Administered wet, it is most economical and nutritive food, its nutritive power being beyond that of others, as demonstrated by the experiments of Prof. Zuchiné. In horses cocoa-flour gives extraordinary results and can take the place of oats to some extent. It ought to be given to horses in the evening—in colts, it promotes the development of muscles—in milk cows it increases the quantity of milk and of cream.—(*Ibid.*)

UPON THE EXISTING POWER OF SPORES OF ANTHRAX.—In the laboratory of Prof. Perroncito, with dried culture prepared in 1880, inoculations were made on guinea pigs, which died fifty-four hours after with anthrax. This fact shows the resisting power possessed by spores of anthrax virus and also the necessity of the anti-carbuncular vaccination upon all animals living on places where the disease may have ceased to appear for several years.—(*Ibid.*)

SOCIETY MEETINGS.

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

The second quarterly meeting of this association, was held in the lecture-room of the California Veterinary College on June 10, 1896.

The meeting was called to order by the Secretary, who stated that on account of sickness of the President, Dr. F. W. Skaife, would not be present, and it would be in order to elect a President *pro tem.*, whereupon Dr. W. F. Egan, of San Francisco, was unanimously elected.

The Secretary called the roll, and the following named gentlemen answered to their names: Drs. Egan, Steers, McGowan, O'Rouke, Fabbi, Hogarty, Jackson and Fox. Visitors: Dr. Archibald, of San Francisco, Dr. Scott, of Montreal, and the students of the California Veterinary College.

The minutes of the previous meeting were read and approved. Communications of regret were read from Drs. H. A. and H. F. Spencer, also from Dr. F. W. Skaife. A communication was read from Dr. P. P. Parent in regard to doing a traveling business. The communication was laid on the table indefinitely.

Dr. J. W. O'Rouke, of San Francisco, came forward with a most excellent paper on the subject matter of "Meat Inspection." The Doctor demonstrated clearly to the members present that he had given the subject a great deal of thought, and had spent considerable time in preparing the paper. The members showed their due appreciation by entering into a most lively and interesting discussion, in which nearly all the members present took an active part. The discussion closed by a few well chosen remarks from the chair.

Dr. Steers now read a communication which he had received from the Palo Alto Breeding Farms in regard to mares aborting their foals. Several suggestions were offered as to the possible cause, but no definite conclusion was arrived at, the data being very limited.

This closed the reading of papers and discussions. After a vote of thanks had been tendered Drs. O'Rouke and Steers, the meeting was opened under the head of new business.

Motion by Dr. Fox, seconded by Dr. Steers:

"I move that the action taken by this association on March 11th in the matter of accepting the resignation of Dr. R. A. Archibald be rescinded, and the Doctor be given an opportunity to withdraw his resignation." Carried unanimously, and so ordered.

Dr. Archibald came forward with a most excellent speech on the subject of interest of the profession as shown by the members of the association. He showed very plainly that there had been a lack of interest taken in the welfare of the association and the profession in general. He also stated that unless there was more interest taken he did not care to belong to such an association. At this juncture every member present avowed that he was ready and willing to do anything in his power to advance the standing of the profession in the State.

Dr. Archibald now withdrew his resignation, and was declared a member in good standing.

Whereupon, the following resolutions were introduced by Dr. R. A. Archibald:

WHEREAS, It has pleased the Divine Architect of the Universe, in His wise dispensation, to remove from among us our late member, Dr. H. Lemke, be it

Resolved, That while we bow humbly to His will, we, nevertheless, feel keenly the loss we are called upon to sustain; for in our late member we had one who was devoted to his profession, an earnest and active member of this organization, and a man who was honored and respected by the entire community in which he lived; and be it further

Resolved, That a copy of these resolutions be spread upon the minutes of our association, and the Secretary be instructed to forward a copy to the wife of the deceased.

So ordered. Dr. Archibald introduced the following:

WHEREAS, It has become necessary for the Governor of this State to investigate to what extent Texas, splenic or splenetic fever exists in California, and

WHEREAS, This action of the Governor is due to the fact that the Federal laws quarantining the entire State during the "fever season," when the disease is only confined to certain parts of the State, and

WHEREAS, We, the members of the California State Veterinary Medical Association, realize that this action on the part of the Federal authorities is jeopardizing the live stock interests of that portion of the State in which the disease does not exist, therefore be it

Resolved, That a committee of three members of this organization, to be elected by ballot, be authorized by this association to represent it in this matter, and, be it further

Resolved, That this committee be instructed to coöperate with and assist the Governor by every means in their power to control this disease without unnecessarily interfering with the prosperity of the State.

The resolution was adopted, and Drs. Archibald, Skaife and Fox elected to serve on the committee as provided for in the resolutions.

The following was also introduced by Dr. R. A. Archibald:

WHEREAS, It is a notorious fact that the present system of meat and milk inspection in this city (San Francisco) is a farce, and not only a farce, but an imposition upon the people, and

WHEREAS, We, the members of the California State Veterinary Medical Association, realize the necessity of more intelligent and more scientific inspection, therefore, be it

Resolved, That the President of this organization be authorized and he is hereby requested to appoint a committee of five to investigate this matter and to take steps to formulate plans whereby a more scientific and systematic inspection may be brought about.

The resolution was adopted, and Drs. Archibald, O'Rouke, Skaife, Steers, and Egan were appointed to act on the committee as provided for in the resolution.

Owing to the fact that the late Dr. Lemke was vice-president of the association at the time of his death, the office was declared vacant, and nominations for vice-president were in order.

Dr. J. Graham, cf Fresno, was nominated and unanimously elected to fill the unexpired term.

The Secretary was asked to secure essayists for the next meeting, which he consented to do.

There being no further business before the house, the meeting adjourned to meet in Sacramento on the 9th of September, 1896.

D. F. FOX, *Secretary.*

ILLINOIS STATE VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of this association was held at the Union Hotel, Galesburg, Ill., May 19, 1896. In the absence of both the President and Vice-President (Dr. M. R. Trumbower, President, and Dr. J. L. Tyler, Vice-President) Prof. A. H. Baker, of Chicago, was elected President *pro tem.* and responded by an appropriate address.

The following members responded to roll-call: Drs. Albert Babb, A. H. Baker, F. L. Brown, E. S. Fry, T. J. Gunning, W. C. Hannawalt, J. McClintock, W. G. Neilson, R. P. Steddom, and John Scott.

After the Secretary made his report, Prof. A. H. Baker read his production, "Puncturing for Gastric Flatulence." The discussion of this valuable paper was considerable and earnest. The article of Dr. T. B. Newby, of Pana, entitled "An Anomalous Disease of the Horse," was read by the Secretary, the writer being absent. After the discussion of this paper, the association adjourned for dinner.

The Society reconvened at 2 P. M., and listened to the essay of Dr. John Scott, "Diseases and Injuries of the Foot."* A lengthy discussion of this wide subject was finally closed on motion.

---

* Published elsewhere in this number.

A general and very interesting discussion then took place of "Barium Chloride as a Therapeutic Agent," of "Tuberculosis," "Parturient Apoplexy," of "Heat Exhaustion and Sunstroke in Horses," "How to Fire for the Cure of Spavin," and other meritorious topics.

On motion of Dr. Steddom, which was seconded by Dr. Gunning, Chas. H. Merrick and Robert Gysel, both of Chicago Veterinary College, class of '93, and R. E. Mylne, of Montreal Veterinary College, class of '89, were elected to membership by acclamation.

The subject of State legislation was next taken up, and it was unanimously decided that the matter should be pushed to the front during the session of the coming legislature.

Adjourned to meet in Chicago in November.

ALBERT BABB, A. B., M. D. C., *Sec'y.*

VIRGINIA STATE VETERINARY MEDICAL ASSOCIATION.

The third annual meeting of this association was held at Norfolk, Va., June 24, 1896, President Dr. W. H. Harbaugh in the chair, and Secretary Dr. Geo. C. Faville at his post.

The following members were present: Drs. Harbaugh, Faville, Gilchrist, Niles, Drake, Dixon, McCulloch, Bannister, Curtice and Sweeney. Health-officers and laymen of Newport News and of the city were also present.

Drs. F. S. Roop, Blacksburg; E. E. Bowen, Lynchburg; John Rome, Colonial Beach, and A. J. Burkholder, Staunton, were elected to membership.

After listening to the retiring president's address, and transacting routine business, the following officers were unanimously elected for the ensuing year: Dr. George C. Faville, Norfolk, President; Dr. W. T. Gilchrist, Norfolk, 1st Vice-President; Dr. Chas. McCulloch, Howardsville, 2d Vice-President; Dr. Thos. M. Sweeny, Richmond, Secretary, and Dr. A. J. Burkholder, Staunton, Treasurer.

The association then took a recess and enjoyed the hospitality of Dr. Geo. C. Faville, at his elegant home at Atlantic City. Later they were driven to the Lambert's Point piers to witness the inspection, tagging, etc., of export cattle, previous to their embarkation for England, after which the members returned to Norfolk.

The association reconvened at 4.45 P. M. During the afternoon session the following papers were read: Dr. H. S. Drake, "Navicular Disease"; Dr. Cooper Curtice, "Eradication of the Cattle Tick." Dr. W. H. Harbaugh also read an interesting paper, the title of which was "Report of a Subnormal Temp r ature."

All the papers were fully discussed.

The veterinarians of the State are actively engaged in a brisk fight against bovine tuberculosis. The disease was fully discussed, after which the following resolutions were passed:

We, the Virginia State Veterinary Medical Association, fully endorse the work being done in this State in regard to the prevention of products of tuberculous animals being sold as human food, and we desire to inform the public that the tuberculin test is the only reliable means of diagnosing tuberculosis in cattle, and we further assure the public that when tuberculin is properly used it has positively no deleterious effect on healthy cows or their milk.

We further declare that milk or meat from tuberculous animals is impure and unfit for human food, no matter to what extent the animal may be affected.

It is the opinion of this association that the national government should adopt radical methods to exterminate this disease and prevent any more of it being introduced from abroad by the importation of thoroughbred or other stock, and, in the meantime, we strongly urge our State authorities to quarantine against other States and allow no cattle to be shipped into this State for breeding or dairy purposes, unless accompanied by a clean bill of health, based on the tuberculin test, or to have them tested by a veterinarian satisfactory to the Board of Control at point of entry at owner's expense.

Next subject brought before the association was the anti-vivisection bill, which was introduced in the last Congress. After the subject had been fully discussed the following resolutions were adopted:

WHEREAS, There is before the Senate of the United States a bill which would check all vivisection and experiments directed toward the amelioration of disease among the lower animals and man; and,

WHEREAS, Such experiments as are conducted by the Bureau of Animal Industry are of incalculable value to the live-stock industry of the country; and,

WHEREAS, This bill in our opinion is a misdirected philanthropy, which tends to protect the few at the expense of the many, be it

Resolved, That the Virginia State Veterinary Medical Association request the members of the Senate and House of Representatives from this State to oppose to their utmost any measure tending to curtail the usefulness of the Department of Agriculture in the District of Columbia in its investigations of the diseases of live-stock.

The report of the officers showed the association to be in a most flourishing condition, and it now includes in its membership all of the legitimate veterinarians in the State, with the exception of three, and we hope to have them as members at our next meeting.

After adjourning, the association, as a body, visited the fine old Virginia resort, Ocean View, and enjoyed the luxuries thereof.

The association adjourned to meet at Staunton, Va., January 5, 1897, thereby bringing to a close one of the most successful meetings ever held by the association.

THOMAS M. SWEENY, *Secretary*.

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

This association will hold its next meeting at Reading on October 6th, it having been postponed one month. The following papers are promised: Dr. Felton, "Canine Distemper"; Dr. Ross, "Management of Cases of Parturient Apoplexy Homeopathically"; Dr. Hart, "Azoturia;" Dr. Michener, "Parturient Apoplexy"; Dr. Allen, "Acetanilid;" Dr. Conard, "Abortion"; Dr. Helmer, "Homeopathy versus Regular Practice of Veterinary Medicine"; Dr. Hoskins, "Pyoktanin"; Dr. Hart, Committee on Legislation; Dr. Zuill, Committee on Education; Dr. Pearson, Committee on Sanitary Science.

W. H. RIDGE, *Secretary.*

MAINE VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting was held at the Hotel Exchange, Lewiston, July 14, 1896, and called to order by President Russell.

On roll-call the following gentlemen answered to their names: Drs. Russell, West, Choate, Huntington, Salley, Freeman, Stevens, Purcell and Cain.

Dr. Purcell reported for the committee appointed to confer with the Maine Cattle Commission in regard to non-graduates testing cattle, that the committee were very courteously received, and the commission agreed not to vouch for any non-graduates in future, and he (Purcell) read a letter from Hon. J. O. Beal, chairman of the commission, to that effect. On motion, it was voted to accept the report.

Voted that the Secretary send a memorial to United States Senators Hale and Frye asking them to use every means in their power to defeat Senate Bill 1552, which seeks to prevent experiments being made upon animals.

Secretary read a letter from Dr. G. H. Bailey tendering his resignation from the association. It was voted unanimously not to accept the resignation.

Voted that this association strongly condemns the act of any member who tries to obtain practice by offering to do it under price.

Voted to reconsider the schedule of prices and amend it so that it shall read "no member shall test cattle for less than one dollar per head."

RESOLVED, That the Maine Veterinary Medical Association respectfully protests that the testing of cattle for export to Massachusetts for furnishing milk for our own citizens is a matter of such importance that it should only be done by competent and well qualified men, and so far as it is being done by men of no professional training the results are misleading and of no value; and, be it further

RESOLVED, That if this important test cannot be made by professional men, there is no need of its being made, no valid reason exists for entailing unnecessary and unwarranted expense upon the owner or shipper.

Voted that a copy of these resolutions be sent to the Maine and Massachusetts Cattle Commission, President of the Maine Board of Health, and all State newspapers.

Voted to present the same bill to the Legislature that was presented in 1893.

Voted to adjourn to meet at the Bangor House, Bangor, in January, 1897.

W. L. WEST, *Secretary.*

NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.

The eleventh meeting of this association was held at Concord, July 14th, 1896, with Dr. Lilico in the chair.

Drs. Tuttle, Wilkinson, Lilico, Abbott, Macguire, Hart, and Pope responded to roll-call.

Dr. Wiggins' application was presented and laid over until next meeting.

Dr. Lilico then addressed the association regarding the subject of veterinary legislation. After a long discussion it was voted that a committee be appointed to draw up a bill and present it at the next meeting, said bill to be similar to those of other States having examining boards.

After a discussion on tuberculosis, the meeting adjourned until September 1st.

L. POPE, JR., M.D.V., *Sec'y.*

NIAGARA AND ORLEANS COUNTIES VETERINARY MEDICAL ASSOCIATION.

A meeting of the veterinarians of Niagara and Orleans counties was called by J. P. Thomson, secretary of Niagara county, for the purpose of considering the organizing of a county Veterinary Medical Society, and also to discuss matters bearing upon the profession in general.

The meeting was called to order at 4 P. M. by J. P. Thomson, secretary. Moved and seconded that Dr. Stocking be appointed chairman. Carried.

On motion, it was decided to proceed to the election of permanent officers from those veterinarians present. Carried.

Ballots cast and Dr. Martin, of Lockport, was elected President; Dr. Stocking, of Medina, Vice-President.

Moved and seconded that the present Secretary, Dr. J. P. Thomson, of Niagara Falls, N. Y., be considered Secretary-treasurer. Carried. That Dr. Kesler, of Holly, Dr. Hunter, of Lewiston, and Dr. Williams, of Middleport, be appointed Censors. Carried.

Topics relating to the uplifting of the profession, the protection of the community against imposition and the animals against cruelty at the hands of illiterate practitioners were discussed.

Reports relating to the use of tuberculin and mallein as diagnostic agents, and tetanus antitoxine as a curative agent were listened to.

The Secretary was instructed to have the report of meeting published in the journals.

A committee was appointed to formulate a constitution and by-laws, to be presented at next meeting, which shall be held at Medina, Aug. 18th, at 2 P. M.

Moved and seconded to adjourn. Carried.

J. P. THOMSON, *Sec'y.*

VETERINARY COLLEGE ANNOUNCEMENTS.

NATIONAL VETERINARY COLLEGE.—Just after the forms were closed for the August REVIEW, we received the welcome news by letter from Professor Salmon, of the above college, that it had merged into the Columbian University, becoming the Veterinary Department of that institution, and inaugurating the three-year course of instruction, by which alone can the modern student become a modern veterinarian, with his many-sided qualifications to meet the more exacting demands of individual and state medicine. By the coalition the National College secures exceptionally fine laboratory facilities, with a distinguished corps of teachers in the collateral branches of veterinary science, while the professors in the veterinary specialty who were connected with the school previous to amalgamation will retain their branches. Upon this point, however, we are not thoroughly informed. The news of the increase in the college course and the increase in the facilities for imparting greater knowledge is enough good news for this issue ; the *personnel* of the faculty will be made public as soon as the arrangements are all completed.

NEW YORK STATE VETERINARY COLLEGE.—We reviewed the announcement of this college in the August REVIEW, making the sole criticism that there were but two veterinarians in the faculty, with a vacancy in the chair of the principles of veterinary surgery, zoötechny, obstetrics, and jurisprudence, expressing the hope that this void might be filled by some member of the profession who would reflect credit upon it. We are pleased to announce that Professor W. L. Williams, of the Agricultural College, Bozeman, Mont., has been secured for this position, and it is difficult to see how a better selection could have been made. He is a practical, hard-working, intelligent, enthusiastic, and distinguished member of the veterinary profession, and will be in a position that will fit him and which he will fit to a nicety. Prof. Law is to be congratulated upon his wisdom and his good fortune in securing the services of so well-adapted a man.

TORONTO VETERINARY COLLEGE.—The session of 1896-97 of this college will begin on October 14th. No changes are noted in the faculty since last session, and it is expected from the number of applications received that the attendance for the next session will be as great as ever. For prospectus and all information, address Prof. Andrew Smith, F. R. C. V. S., Principal, 40 Temperance St., Toronto, Can.

COMMUNICATIONS.

UNIFORM DEGREE AND ONE EXAMINING BOARD FOR VETERINARIANS IN THE UNITED STATES.

WASHINGTON, D. C., August 10, 1896.

Editors American Veterinary Review:

DEAR SIRS:—The veterinary profession in the United States is, so to speak, in its infancy, but though a young child it has exhibited greater strides of progress in some directions than has some of the older professions. Though the years are few of its existence, the degrees by which colleges have placed their seal of qualification are many. I will enumerate a few, which will give an idea of the condition of the present degree designations, to wit: V.S., D.V.S., M.D.C., M.D.V., D.V.M., V.M.D., M.R.C.V.S., F.R.C.V.S., M.U.S.C.V.S., F.U.S.C.V.S., etc.

The apparent lack of uniformity is very striking. The great need of the present is the adoption of a uniform degree by the Association of Faculties of Veterinary Colleges of North

America. Let every college grant the same degree. When we have decided upon the degree, let it mean something, and let the requirements necessary for its possession be the same throughout this great country.

My plan would be to discontinue the State veterinary boards as examining bodies for candidates to practice veterinary surgery, and make them the consulting sanitary board of the State; they meeting at stated periods, at which time measures in preventive medicine, cattle inspection and other subjects of like nature shall be fully discussed and such recommendations as shall be agreed upon placed before the legislative and executive departments of the State government.

Now, as the profession of the veterinary sciences is a great one, and its future is so near when it shall be the peer of others, the standard should be placed high.

If a man is capable of practicing the science and art of veterinary medicine and surgery in the State of Maryland he is most assuredly as fully capable to practice the same science in California. Now, why compel him to undergo re-examination every time he shall change his place of residence. It is a hardship and an injustice.

When a man receives his degree it should mean something, and to this end I would suggest the following plan of granting the degree of V.S. and the registration of candidates to practice in this country.

On the first day of February let the faculties of every veterinary college in this country send two questions taught in each branch of its curriculum to the Association of Faculties of Veterinary Colleges in North America, and from these questions let this body select the questions for the final examination of candidates for the degree of V.S.; and certificate of registration to allow him to practice veterinary surgery in the United States, the successful candidates becoming also members of the United States College of Veterinary Surgeons. Let this examination be held at the different colleges on the same date, say the 1st day of April, and continue one week—or 48 hours' time allowed for the complete examination.

Let the questions decided upon by the Association of Faculties be copied and placed in sealed envelopes for each college.

Have each college exchange one of their faculty to conduct the examination and let each college bear the expense of such examiner.

The sealed questions are then sent to each college and the delegated examiner shall break the seal in the presence of the faculty and conduct the examination according to form to be adopted by the Association of Faculties.

The papers of all candidates are upon completion of the examination independently sealed, registered and transported to the Association of Faculties and are examined by them. This body shall then notify the several colleges of the successful candidates, and they shall then receive the degree, and immediately thereafter a certificate to practice their profession in the United States.

This method will encourage a close study of the science, promote the selection of faculties of high order and give uniformity to the qualifications and law of practice. It will be much cheaper for the student, as he is not compelled to travel great distances after graduation to be examined by a State board. No partiality can be exhibited, and the student is insured an honest and just examination.

I would beg most earnestly the Association of Faculties of Veterinary Colleges of North America to consider these suggestions.

CHARLES M. EMMONS, M.D., Ph.D.,

Professor of Mental Diseases, Howard University, Medical Department; Professor of Physiology and Histology, United States College Veterinary Surgeons.

MASSACHUSETTS CATTLE COMMISSION.

BOARD OF CATTLE COMMISSIONERS,
52 VILLAGE ST., BOSTON, Aug. 8, 1896.

Editors American Veterinary Review:

DEAR SIRS:—I note in the last REVIEW an editorial on the Massachusetts Cattle Commission. I thought you would be interested to know that the first appropriation was $35,000, 1894; the second, $150,000, 1895; and this year, $300,000, $50,000 more than was asked for in the annual estimates submitted to the auditor.

We have now on file five times as many applications for herd tests as we could attend to with double our funds.

Yours sincerely,
A. J. SHELDON.

IOWA LAWS AGAINST HOG CARCASSES.—Iowa now has a State law which prohibits the buying, selling or giving away, or hauling over any public highway, any diseased swine, or swine that have died or been slaughtered on account of *any* disease. The law provides that such carcasses shall be burned or properly buried.

OBITUARY.

JOHN WESLEY GADSDEN, M.R.C.V.S.—On Wednesday, Aug. 12th, at his home, 2109 Arch Street, Philadelphia, Pa., the well-known veterinarian whose name heads this article, died, at the age of 64. In this simple announcement the veterinary profession has sustained a serious blow, for no man was a more conscientious laborer for the advancement of that science, both by example and by precept, than he who was known to his brethren throughout the length and breadth of the land. His was a familiar face wherever an event was transpiring that was connected with veterinary progress, and he will be missed more on account of the silent voice than of the absent face.

Dr. Gadsden was born in Hemel Hempstead, Hertfordshire, England, October 11, 1832, his father being a farmer, who intended that his son should follow the same pursuit, and at the age of 17 he was apprenticed to a scientific farmer, with whom he remained two years, but disliking that pursuit he left and went to London, where he commenced the study of veterinary medicine, acquiring a practical knowledge by serving under several practitioners, and on January 1, 1856, entered the Royal College of Veterinary Surgeons, from which he graduated April 30, 1858.

He was first engaged as assistant by Wm. T. Stanley, who had a large practice in Leamington, Warwickshire, with whom he remained one year, when he purchased a practice for himself at Bracknell, in Berkshire. He remained there until the fall of 1867, acquiring an extensive practice, and also serving by appointment of the English government as veterinary inspector. He then came to the United States, and located in Philadelphia, in January, 1868. Here he devoted himself to his profession, and soon built up a large practice among her best known citizens. He became later identified with the Bureau of Animal Industry in the stamping out of contagious pleuro-pneumonia, being one of its corps of inspectors sent to Chicago when it became decided to check its westward progress, and his valuable experience and ripe judgment were of much assistance to the authorities in those momentous times, for failure at that point, where the disease was alarmingly established among the distillery-fed milch cows of that city, would have destroyed the design of the government to stamp the disease from the country. The inspectors worked under many disadvantages, as their purposes were not understood, and when their objects were known no faith was placed in their movement by interested parties because of its (to them) impracticableness. But Dr. Gadsden was an enthusiast, and his strong faith and great energy helped largely to strengthen the purposes of the government, and the successful termination of that grand work has been the greatest appeal the struggling veterinary profession of this country has ever made in seeking legislative recognition and in extending veterinary watchfulness of states and municipalities over the meat and milk industries.

Dr. Gadsden retired from practice in 1891, but ever retained his interest in the profession. About a year ago he married the widow of the late Dr. Michener, who survives him.

David Roberge.—Probably no man in the history of the country was better known as a shoer of horses than was the subject of this sketch, who died at Coney Island, New York, on July 9th, at the age of 72. He had for many years held a foremost position as a shoer of valuable road-horses, being celebrated as a corrector of defectuosities of gait and for the overcoming of lameness by mechanical means. This latter proposition became a passion with him, and his time became almost engrossed with that idea, which was greatly encouraged by constant association with Robert Bonner, who was his life-long friend. His work, "The Foot of the Horse," enjoyed a large sale, which is yet maintained. His son, Frank P. Roberge, graduated in veterinary medicine from the American in 1880, became the inventor of the hoof-expander bearing his name, and has devoted himself largely to it ever since.

Wilder D. Southwick, D.V.S.—Of typhoid fever, on July 13th, after an illness of five weeks, this promising and hard-working veterinarian died at his home in Woonsocket, R. I., leaving a widow and two young daughters, besides a large circle of relatives and friends to mourn for the untimely culmination of a career which was reflecting the greatest credit upon his profession and alma mater. He was just thirty-one years old, was a graduate of the American Veterinary College, class of '87, and had already achieved a prominent position in his city and State, being especially energetic in a study of the tuberculin test as a means of eradicating the scourge of consumption from among the dairy herds of his State, his opinion being sought frequently in consultation in various parts of New England in reference to that subject. The sympathy of a wide circle is extended to his bereaved family.

Prof. G. Colin.—Prof. G. Colin, the French veterinary physiologist, known all over the world, died at the age of 71 in the town where he had retired when he left Alfort, and where he was born. After a scholarity at the school of Lyon, where he revealed his superiority as a worker, he remained in that school as Chef de Service (adjunct) for some time and then went to Alfort, where he remained until he retired. The principal work left by him is his treatise of "Comparative Physiology of the Domestic Animals," to-day the only one of great value in our medicine. Member of the Academy of Medicine of Paris, and of numerous societies of learning, Prof. G. Colin was a passionate adversary of Pasteur, Chauveau and Bouley. His death takes off the last member of the old faculty of Alfort of 35 years ago.

George Leich, D.V.S.—The untimely death of this veterinarian is recorded with much regret. He had worked hard to obtain his education in the profession which had ever been his ambition, which was accomplished at the examination in 1894 at the American Veterinary College. He located at his home in Brooklyn, and was building up a lucrative practice by strict and conscientious methods. About two months ago, while dissecting out a cancerous tumor from a horse his scalpel turned and cut his hand, which subsequently became the centre of infection of septicæmia, resulting in his death, at his home, 1540 Gates Avenue, Brooklyn, on August 1st. He was 34 years old, and leaves a widow and two children.

W. E. Smith, D.V.S.—The death from diabetes of this well-known veterinarian, at his home in Sedalia, Mo., is announced. He graduated from the American Veterinary College in 1891, and had built up a large practice, being an especially practical veterinarian and well liked in his community. His practice has fallen into the hands of Dr. W. A. Porter, of Dunksburg, Mo.

Cast of a Living Horse.—An innovation was recently made by the sculptor Partridge in moulding the statue of Grant, unveiled in Brooklyn in April, in that he made a cast from a living instead of a dead horse. In his experiments he began with a black Kentucky horse of perfect lines, and it was very difficult to keep the animal sufficiently still, but finally they hammered upon one foot as though a blacksmith were driving on a shoe while a cast of the opposite leg was made.

NEWS AND ITEMS.

CHARLES H. FORD, D.V.S., formerly of Washington, D. C., has located in New Orleans, La.

PROF. E. NOCARD, of Alfort, has been nominated Commander of the Order of Leopold.

PROF. A. LIAUTARD has been unanimously elected member of the Société de Medecine Veterinaire Pratique of Paris.

DR. R. S. HUIDEKOPER, of the *Jour. of Com. Med.*, is convalescing from his recent severe sickness in the White Mountains.

ADULTERATED MILK.—It is estimated that if pure milk were supplied to the residents of London it would require between 20,000 and 30,000 more cows than are now used.

DR. T. A. GEDDIS, who has been in charge of the government meat inspection at the Ottumwa (Iowa) abattoir, has been ransferred by the commission to Davenport, Ia., a larger field.

THE subject of the formation of an association of veterinarians connected with agricultural experiment stations is being agitated, to hold meetings in conjunction with the U. S. V. M. A.

DR. W. HORACE HOSKINS, of Philadelphia, was recently elected an honorary member of the New York County Veterinary Medical Association. A neat compliment to a hard-working associationist.

DR. W. J. COATES, chief surgeon to the American Veterinary Hospital, and Professor of Surgery to the A.V.C., had the misfortune to break his arm on August 12th. The patient is doing well, and will be at his post in a short time.

JURY DUTY IN ENGLAND.—The veterinarians of Great Britain are agitating the passage of an act of Parliament to exempt veterinary surgeons from serving upon juries. They should see that no meddlesome clauses are added by rural members.

MEAT AND MILK INSPECTION IN VIRGINIA.—Dr. W. H. Harbaugh, of Richmond, writes: "We are doing good work here in our efforts to establish meat and milk inspection, and I have not the least doubt that we will eventually succeed."

TETANUS ANTITOXINE.—The New York City Board of Health is trying to improve this serum. So far its use has met with varying success in veterinary practice. Let us hope that in the near future we may speak more highly of its efficacy in the horse.

VETERINARY SURGEONS OF NEW YORK AND BROOKLYN.—In the County of New York, according to the *Jour. of Com. Med.*, there are 328 registered veterinary surgeons, 217 by diploma, 111 by affidavit; Kings county has 112 registered, 78 by diploma and 34 by affidavit.

THE August *Journal of Comparative Medicine* urges the re-election of Prof. Stewart as Secretary of the U. S. V. M. A., and the REVIEW most cordially seconds the suggestion, being sure that the welfare and interests of the association could not be more zealously nor faithfully guarded.

LABOR LIGHTENERS.—A veterinarian of national reputation concludes his letter of August 12th as follows: "Allow me to say that you are making the REVIEW more welcome every month, and I sincerely hope that the financial results are on a par with its merits as a veterinary publication."

FOLLOWING the example set by the United States with pleuro-pneumonia, Austria, which was extensively infested by that disease, decided to apply the system of the total abatage of diseased and contaminated animals and since the first of March that country is entirely free from that disease.

DR. J. MILLER, formerly in private practice at Ottumwa, Ia., but for the past several months in the Civil Service Commission's employ at East St. Louis, has been placed in charge of the inspection work at the abattoir at Ottumwa. The doctor will certainly find it very pleasant to be returned to his old friends.

IMPORTATION OF UNITED STATES CATTLE INTO ENGLAND.—Replying to an inquiry in Parliament recently, Mr. Walter Long said: The number of cattle imported from the United States was approximately 300 in 1875, 400 in 1876, 11,500 in 1877, 68,000 in 1878. In the last four years the number had been: 397,000 in 1892, 249,000 in 1893, 381,000 in 1895, 274,000 in 1895.

A NEW YORK VETERINARIAN informs the REVIEW that on Tuesday, August 11th, he treated seven horses suffering from heat-exhaustion in the streets; that their temperatures registered as follows: 108, 109, 107, 108½, 110, 107½, 109½,—an average of 108½; that all recovered from the danger of death, but that the horse having the highest temperature became the subject of acute laminitis.

THE HORSE'S HAT.—Last year a humane horse-owner in Bordeaux provided a hat for each of his horses, and it is now becoming a popular article of trade in France. It is made of straw and covers the eyes and forehead of the horse, while openings are left for the ears. A sponge is kept on the inside of the hat and this is moistened from time to time with vinegar, so as to keep the head cool.

DEATH CERTIFICATES.—Why would it not be a good idea to compel veterinarians to give death certificates for horses at least, especially in the larger cities? This would tend to do away with so much quackery and keep animals from suffering at the hands of illiterate persons. It would also help veterinarians, by preventing non-registered men from practicing, as they could not legally sign certificates.

ADVANCE IN VETERINARY SCIENCE.—As time goes on veterinary science is and has been rapidly advancing. Great strides have been made in the various modes of treatment,—due much to the discovery of the cause of many diseases. In order to comprehend these methods, veterinarians must read the leading veterinary journals. Do not think twice but subscribe at once for THE AMERICAN VETERINARY REVIEW and advise other veterinarians to do the same.

A MAN IS NEVER A PROPHET IN HIS OWN COUNTRY.—It is a curious coincidence that while the one-hundredth anniversary of Edward Jenner's first successful vaccination in the little Gloucestershire village where he practiced is being celebrated throughout Europe, the town of Gloucester is suffering from an epidemic of smallpox, which has already cost hundreds of lives, and which is due to the town authorities being opposed to vaccination.

PRINCIPAL WILLIAMS, of the New Veterinary College, Edinburgh, and editor of the *Veterinary Journal*, sailed on July 14th for Jamaica, whither he was dispatched by the British Government to investigate a disease among the cattle of that colony which has baffled the veterinarians at that point. On the eve of his departure he was tendered a complimentary dinner by prominent members of the profession, when many happy remarks were indulged in at the expense of the distinguished guest.

SOCIETY INSTRUMENTS.—In England many of the local veterinary medical societies own a collection of instruments, mostly those rarely used or of an expensive character, and when a member has occasion to employ one of them he applies to the secretary, who is the custodian of them, and he makes the loan, for a stipulated time, when the instrument must be returned in good shape, the member being responsible for any damage done. This would not be a bad plan for many of our American associations, especially in rural districts, where it requires a long time to obtain them from the maker.

SUCCESSFUL HORSE SHOWS.—There have been more horse shows this season than ever before, and, without exception, they were entirely successful, many of them, like that at Long Branch, surpassing in attendance and character of exhibits all predecessors. These events help to popularize the pleasure horse and to help the veterinarian practically. They are encouraging signs of the times, and especially grateful in silencing those fanatical nondescripts who are predicting the extinction of man's faithful servant, and joy, in favor of the machine with the tuberculous diathesis.

STATE VETERINARIAN IN CHARGE OF HOGS AT IOWA FAIRS.—The Iowa State Board of Health has made the following ruling: All hogs presented for exhibition at the Iowa State Fair and the Sioux City Inter-State Fair shall be subject to inspection by the State Veterinary Surgeon before entering the fair grounds, and to daily inspection during the exhibition. Should any animals be found diseased with hog cholera or swine plague they must be immediately removed to a place of quarantine. The show pens must be cleansed and disinfected under the supervision of the State Veterinary Surgeon before and during the fair.

"SANITAS" PREPARATIONS.—The American and Continental "Sanitas" Company, Limited, 636 West 55th Street, New York City, whose preparations are now so well and favorably known; practically cover the whole field of the important subject of disinfection. Their preparations are put up in a great variety of forms, both liquid and solid, to suit all requirements; from the rough disinfection of the drain and stable to the finest disinfection and antiseptic treatment of the wound. Furthermore, "Sanitas" is non-poisonous. The company have recently published a book, "How to Disinfect," which treats this difficult subject in an excellent and thoroughly practical manner. We would suggest to our readers to write to the company for a copy of the book, which will be sent free on mentioning this journal.

MORE UNPROFESSIONAL ADVERTISING.—The Veterinary

Department of that staid and honorable seat of learning, the University of Pennsylvania, must hang her head when she reads the advertisement, in the *Breeder and Sportsman*, of California, of W. A. W. Turnbull, V.M.D., "formerly resident surgeon in charge of the veterinary hospital, University of Pennsylvania," who claims that his "Curine" is "the most powerful and best preparation in the world," which bears his confidence to such an extent that he "will wager $100 that one bottle will reach deeper-seated troubles, etc., than any other preparation in the world." Would the talked-of chair of "Deontology" in our American colleges save us from producing such members of the profession?

HORSES OVERCOME BY HEAT.—A correspondent requests us to say that in view of the unprecedented hot weather through which this country has recently passed, and the large number of horses prostrated in the streets of our large cities, it would be an excellent opportunity for veterinarians to discuss the subject of the effects of over-heating on horses, and the best methods of treating them. We are quite certain that the profession has never had so good an opportunity for observing these effects, and we entirely agree with our correspondent that much practical good could be added to our knowledge of the phenomena and our therapeutical efforts if those who have been specially favored or who have been more than ordinarily successful in a particular line of treatment, would narrate their experiences for the benefit of practitioners at large. We offer the profession the pages of the REVIEW for such a purpose.

SOME BITS OF ADVICE TO VETERINARIANS.—Always be on hand . . . . Make your calls promptly . . . . Examine your cases thoroughly . . . . Keep a record of the same . . . . When making a diagnosis, be positive . . . . Be careful about prognosing; trifling affections often become complicated . . . . Watch the action of your drugs . . . . Do not be too positive about the so-called specifics . . . . Note the length of time your cases take . . . . In all cases note the appetite; coax your patients to eat, if only a small amount . . . . See that the manger is clean and the food the best . . . . Attend to your duties faithfully and conscientiously . . . . Charge a fair price for your services . . . . Do not be classed as a cheap doctor . . . . During your spare moments, improve your time by writing short "Reports of Cases" for the AMERICAN VETERINARY REVIEW.—"F. X. T."

Extreme Pyrexia.—Roscoe R. Bell, D.V.S., of Brooklyn, reports that he was called to a patient on July 31st, the subject being a driving horse which had been driven from Brooklyn to Coney Island, at a very moderate speed, and tied in the sun (which was extremely hot) while the occupants of the carriage enjoyed themselves on the beach. At noon the horse was offered his dinner of oats, which he refused, and about six o'clock his head was turned toward his city home, but while he plodded along there was no spirit to his movements, and when three miles had been traversed began to stagger, meantime perspiring and showing other indications of being overwrought. He was forced to continue his unwilling journey, but after another mile became unable to proceed further. At this point Dr. B. was telephoned for, arriving in half an hour, finding the patient lying in a field, with rapid respiration, frenzied attempts to arise, but evidently in a dying condition. No medication was indulged in, but recognizing that it was a case of the effects of heat upon the cerebrum, his temperaturer was taken, and found to be 110° F. The registration was epeated, and the mercury ran so quickly to the extreme rating of his clinical thermometer, that he thinks there is no doubt but that the true amount of heat would have registered 115 or 120 degrees Fahrenheit.

Destroying Ticks with Cotton-Seed Oil.—Dr. M. Francis, of the Texas Experiment Station, has lately drawn attention in a paper to the method of destroying ticks upon cattle of his State, and as the study of the tick pest is one of his principal duties, his description is of much value. After several unsuccessful attempts to destroy them by various means the dipping process has been adopted with the most gratifying results. A large vat of the capacity of 5,000 gallons is used, and the cattle are forced to swim through it. Various carbolic and arsenical sheep-dips were employed, but either the cattle had to be kept in them too long a time in order to kill all the ticks or they were irritated by the ingredients. This led Dr. Francis to try the effects of oil in destroying the ticks. It is well known that grease or oil of almost any kind is fatal to insects, lice, etc., and so a layer of three-quarters to one inch in thickness of crude cotton-seed oil on the water in the vat was first used, the cattle being forced to swim through it, so that when they emerged from the vat they were covered perfectly with the oil. This procedure had no ill effect upon the cattle, but was exceedingly fatal to the ticks, and was superior to any other treatment experimented with. Kerosine emulsion was found to have no practical value; crude petroleum irritates the skin and emulsifies with water; resin oil is useless for the purpose; corrosive sublimate is too dangerous, and is not very fatal to ticks, even in solution of 1.250 in water, and tobacco sheep-dips are worthless. Dr. F. is studying the effects of other oils, the most promising being West Virginia black, a mineral oil.

HORSES OF PARIS.—The Paris Omnibus Company has the largest and finest collection of horses in the world—15,084 horses, driven to the double-decked omnibuses, three abreast, matched up of the same color and of the active draught-horse type that travel in a sweeping trot from stand to stand. They have some lighter horses on suburban street-car lines and some in cabs and carriages, and some heavy draught teams of monstrous weight, some three abreast, some four-horse teams, and some in great heavy carts driven two, three or four tandem. Monsieur Lavalard, the manager, is a horseman of remarkable ability. He has his buyers visit every horse-breeding district of France, and select just such horses as come up to their standard, much as the French government officials, who have the first choice of breeding stallions, and pay the highest prices. Such customers as these stimulate the farmers to raise the finest horses they can, as they are sure of a good price for a good horse. Recent statistics show that Paris has 86,150 horses in that city, where the horseless carriages were to replace the horses. . . . These belong to 11,523 persons. For the whole of the department of the Seine there are 115,619 horses, belonging to 24,106 owners. There are but few geldings seen in Paris, as the geldings are the popular horses for work in all parts of France. The Province of the Perch supplies many horses of the handsome grays and some blacks of the active draught type, Brittany the light draught, and Normandy and Boulogne the heavy draught.—*Live Stock Journal.*

FOR SALE.

On account of death of a veterinarian, widow will sell his books. Also, a modernly-equipped veterinary hospital, 25x65, two story and basement, five box-stalls and seven single stalls, concrete floor, sewer connection each stall, with office and elevator. Located in city of Brooklyn. Address, MRS. G. LEICH, 1540 Gates Ave., Brooklyn.

PRACTICE FOR SALE.

A well-established Veterinary Practice, in a city of 80,000, in a splendid agricultural district. Only one competitor. Good reasons for selling. Address. "PRACTITIONER," No. 1302 Felix Street, St. Joseph, Mo.

AMERICAN VETERINARY REVIEW.

OCTOBER, 1896.

EDITORIAL.

THE BUFFALO VETERINARY CONVENTIONS.

For the past few months our editorial pages have constantly referred to the above events. On some occasions we spurred the officials, for fear that some of the details for that perfect success which was every member's earnest wish, might be omitted; finally, in the last words that we were permitted to speak to our readers before the assembling of the hosts we became speculative, predicting a large outpouring of members and a most enthusiastic meeting. This month we become realistic, and can now speak of what did occur. To say that the meeting was a success from every standpoint does not give the reader who for one reason or another was prevented from attending a correct impression of the kind of success that it was. If we pile up adjectives in front of the word "success," such as "great," "grand," "pronounced," etc., we doubt if we can convey to his mind the fact that it was superior in every sense to all other meetings of the United States Veterinary Medical Association that has ever been held since its birth thirty-three years ago. Many things conspired to accomplish this. Intellectually, socially and progressively it was such a meeting as would be looked for and hoped for from all the higher elements of the profession of veterinary medicine in the United States. There can be no doubt but that this association is becoming an authoritative body upon State medicine; its deliberations are largely made up of the consideration of diseases and conditions which affect man and the lower animals in common, or that affect the national wealth in the devastation of herds and flocks. The subjects of extermination and prophylaxy are the chief therapeutical measures discussed, and in a sense each member becomes a veterinary statesman. This is the highest ground that can be assumed by our profession and it is worthy the best minds and the most noble character of her members. This impression was very forcibly presented at Buffalo, when a survey of the faces that were wrapped in earnest attention throughout the proceedings showed probably a majority actively engaged in the practical work of sanitary medicine throughout this and other countries—State veterinarians, experiment station attachés, teachers in agricultural colleges, inspectors of animal food products, and others in kindred lines. There was, possibly, a minority of practitioners of veterinary surgery, family physicians (so to speak), men who draw their entire sustenance from private practice, and who dropped their daily routine to attend the meeting. There were some subjects which directly appealed to him, but the majority of the subjects were of more interest to the former class. Perhaps, this is as it should be, only we wish to draw the attention of the association to the evident tendency of the deliberations, that they may give it consideration, and decide if it is the wisest course. Certainly a three-day meeting is not too long in which to discuss the many phases of sanitary medicine, and very little time can be spared for other subjects—so important is the question of state medicine—but we rather fear that the meetings will lose interest to those practical men who are, or have been in the past, the bone and sinew of the organization. It may be that the national body should devote itself exclusively to the department of sanitary medicine, and that local associations should deal more with the cruder diseases of every-day practice; but the question is narrowing itself to that decision.

There was more animation, more earnestness, more good fellowship, and a more marked desire for the accumulation of knowledge, and a jealousy of the good name of the profession, manifested than was ever before observed, while the attendance, especially of members, was a record-breaker. And this in a year when the status of the profession financially has partaken to a distressing extent of the general business torpor of the times. It will be unnecessary here to review the events that transpired, for some forty pages of the REVIEW are devoted to a complete analysis of the work of the convention, undoubtedly the most complete that any American veterinary magazine ever gave to its readers in a single issue. We simply here draw the estimate of the work and character of the meeting, which, as already stated, was, in our estimation, as well as that of every old association man whom we interviewed, the best in work, the best in enthusiasm, the best in attendance ; and it gave promise of increased usefulness and interest.

The meeting of the Association of Faculties was well attended, earnest in endeavors, and productive of some results. A thought could scarcely escape one, however, who listened to the deliberations, and that was that there were many points of difference between the State Universities, maintained by State appropriation, and the private schools, which have to rely upon private means for their existence. It may be well for the association to bear in mind this difference when placing matriculation so high as to invite only Bachelors or Masters of Arts, as was hinted at by a member of one of the university faculties.

The meeting of the New York State Association was upon the whole a successful one, but scarcely as well attended as was expected, considering the great opportunities offered the members to attend the national meeting at the same time, and many papers which were announced were not presented. But, nevertheless, those which were read were extremely interesting, and the discussions quite animated and valuable. Next year it meets in Syracuse, and every effort should be made to enthuse the members to a more liberal outpouring.

GUARD YOUR VETERINARY LAWS.—At the close of the last session of the New York legislature, the REVIEW obtained from

Dr. O'Shea, Chairman of the Committee on Legislation of the Veterinary Medical Association of New York County, a *résumé* of legislation affecting the veterinary profession during the session that had just closed. It was surprising to note the number of bills that had been introduced in the interests of private individuals, all or any of which, if they had become laws, would have worked incalculable injury to the legitimate profession in New York State. Only for the vigilance of the committees of the State and County Societies many of these would have been placed upon the statute books, but they opposed them so vigorously that their progress was estopped—only to be renewed again when their vigilance was less energetic. The question of employing permanent counsel in Albany had been favorably discussed by the County Society, his duties to consist of a daily scrutiny of the bills to be introduced. Last winter this work was done by the voluntary act of an Albany practitioner, Dr. William Henry Kelly, of the State Society, and it was largely through the alarm sent out by him that the profession was apprised of impending adverse legislation. It would appear that the proposition to retain counsel resident at the capital is more imperative for the coming winter than ever before, as the rumor is now afloat that an attempt upon a large scale will be made at the next session to break the law which has placed our colleges under the jurisdiction of the Board of Regents and our examinations in the hands of the Board of Examiners. The enactment of these laws is in the direct line of the educational advancement which is everywhere manifest, and no power on earth should be exerted to break them down. It does not affect the question, so far as the REVIEW is concerned, that the appointment of that Board of Examiners was in direct opposition to our conception of the manner in which it should have been; that some of its members should never have been placed there; that some of them are a direct affront to a large part of the legitimate profession of the State. The Board itself is the logical climax of the demands of the profession for a higher standard of proficiency, and it must be preserved, even though it should be purified. It has been mooted that an attempt will be made to repeal or amend the law creating this Board, and the REVIEW sounds the alarm to all members of the profession in the Empire State, that they may oppose such a disaster by every means in their power, and crush it so badly that no man nor body of men will ever again have the effrontery to attack such sovereign laws that have been demanded, worked for, and secured by the unanimous and united profession of veterinary medicine in New York State.

To be forewarned, is to be forearmed!

BOVINE DIPHTHERIA.— Has Dr. Winchester discovered diphtheria in cattle? In a paper read before the United States Veterinary Medical Association he describes a number of cases whose clinical history and post-mortem lesions would lead one to suspect it; but he has gone further, and, not relying upon his own familiarity with the microscope, has obtained the opinion of such high authority as Prof. Harold C. Ernst, of the Bacteriological Department of the Harvard School of Medicine, who says the bacilli obtained from the membrane of the throat of the cattle described by Dr. Winchester greatly resemble and he thinks they are identical with the Klebs-Löffler bacillus. The paper, which will be found in a very complete form elsewhere in the REVIEW, is, therefore, a most valuable contribution to the study of comparative pathology, and the Doctor is entitled to a great many thanks for his intelligent and painstaking investigation of the subject. We have no doubt but that his recognition of the disease will be followed by many observations of a kindred nature from others, and in a short time we will have another contagious disease added to our already long list affecting the members of the bovine family.

VETERINARIANS residing in counties adjacent to New York County are welcome to be present at the next meeting of the Veterinary Medical Association of New York County. They should join the society.

ORIGINAL ARTICLES.

[COPYRIGHTED.]

BOVINE DIPHTHERIA.

By J. F. Winchester, B.Sc., D.V.S., Lawrence, Mass.

A Paper read before the U. S. V. M. A., at Buffalo, Sept. 2.

Having been requested by the President of this Association to prepare a paper for this meeting, I will present for your consideration the subject of Diphtheria. In presenting this subject it is my expectation that some may be induced to make closer examinations after death of those animals that die from apparently mysterious diseases. I use the expression mysterious from the fact that in the outbreak that I shall hereafter cite, if I may so term it, the mystery was looked for in the well, the hay and the pasture, with negative results.

In the course of time a case similar to those that had died presented itself, and that animal was given to me. As a result of that gift I present this paper to-day, hoping to command your attention for the time allotted, and at the same time to suggest that, notwithstanding the want of record of the existence of diphtheria in cows, they may be susceptible to the one contagious disease that is increasing in the human family. Aside from the clinical picture and post-mortem conditions as they appeared to me, you will recognize the acknowledged authorities on diphtheria, whose works I have consulted and from whom I transcribe.

DIPHTHERIA.

The word diphtheria is derived from the Greek, signifying parchment.

Synonyms.—Diphtheria among mankind has been described by writers in different countries under a variety of names, such as cynancha maligna, cynancha contagiosa, angina maligna, angina gangrenosa, malignant sore throat, epidemic croup, etc. This malady was described by Bard in 1789 under the name angina suffocativa.

The distinctive characters of the affection were very clearly stated by Bretonneau in 1821 to 1826, who applied to it the term diphthetrite, whence originated the name diphtheria, proposed by Trousseau. This name, the significance of which relates to the most characteristic local event, namely, the formation of a false membrane, has the negative merit of not involving any hypothesis concerning the pathology of the affection.

Diphtheria is defined as a specific infectious disease characterized by a local fibrinous exudate, usually upon a mucous membrane, and by constitutional symptoms of varying intensity. The presence of the Klebs-Löffler bacillus may be regarded as the etiological criterion by which true diphtheria may be distinguished from other forms of pseudo membranous inflammations.

Etiology.—Diphtheria is endemic in the larger cities of population, and at times epidemic. It is a fact that while other contagious diseases have diminished within the past decade, this malady has increased in cities. This disease is not confined to cities; it has prevailed in country districts, and the affection in many instances seems to be specially virulent.

Sporadic cases occur under circumstances which seem to render it impossible that the special germ of diphtheria had been introduced from without, but a similar apparently spontaneous development of other contagious diseases occurs, so that these instances cannot overthrow the general belief in the contagiousness of diphtheria. At times it is true that it is often impossible to trace the source of infection in cases of diphtheria. "The experimental inoculations of animals with diphtheretic exudation has not yielded decisive results." (Flint.)

There is evidence of the transporting of the virus by individuals who do not become infected with the disease. The contagion of diphtheria often adheres tenaciously to localities where it has once gained a foothold, and months may elapse and then a case occurs. Surroundings and conditions do not appear to be connected with the causation. It occurs at all seasons of the year, but most frequently during the changeable weather. The period of incubation is generally between two and eight days, but it may be longer. The disease is often limited in its prevalence in particular sections to a circumscribed area. It has been observed to be restricted to a few houses, a single house, or to a narrow strip of land on the banks of a stream.

The special cause seems to require auxiliary causes, at present unknown, which are peculiar to certain localities. Epidemics differ as regards certain features of the disease and the rate of fatality. In respect to variations at different times and places, diphtheria resembles other epidemic diseases.

Clinical History.—Diphtheria presents in different cases such differences that some authors have described several varieties of the disease. The marked point of difference relates to the development of the disease. The attack is sometimes abrupt, beginning with a chill more or less pronounced, and followed with a marked elevation of the temperature.

At other times the disease may begin with symptoms denoting great prostration. When the development is gradual and insidious and there are few or no local symptoms pointing to the existence of the malady, the characteristic affection of the throat reveals the disease. When the fauces alone are involved there is seldom any pain or soreness, and in some instances the sensibility is diminished. Incomplete paralysis of the muscles concerned in deglutition, which is sometimes a sequel, may be a concomitant of the disease, rendering swallowing of liquid more or less difficult, and regurgitation through the nose. The breath may be fœtid.

When the false membrane extends over the buccal mucous surface, it occasions more or less pain on the introduction of food or drink into the mouth, together with ptyalism and stiffness of the parts. When the nares are affected there is a discharge from the nostrils which may be limited to one nostril. The gravity of the disease is commensurate with the extent of the local affection and the abundance of the exudation.

However mild cases may be at the outset, there is always a liability to the occurrence of diphtheritic inflammations in new situations, to the development of grave symptoms and to important sequelæ. The symptoms vary with the anatomical system involved, namely, circulatory, cutaneous, respiratory, digestive, nervous and urinary.

The pulse may be frequent at first, then suddenly falling below the normal. Epistaxis is sometimes profuse, and there may be hæmorrhage from throat and mouth, which denotes great danger. The skin rarely presents much increase of heat, and not infrequently in the course of the disease the surface becomes cool or cold. Pyrexia, as a rule, is less than in most other acute diseases; however, it may be high.

Petecchial spots or ecchymoses, are sometimes observed, generally in connection with hæmorrhage from mucous surfaces. In some cases the skin presents an anæmic aspect, even when hæmorrhage has not occurred. Diarrhœa is not uncommon, and is a bad omen. In the majority of cases the mind is unaffected, but delirium does occur; convulsions and coma occasionally occur and are a forerunner of a fatal termination. The probability in these cases is that it is due to uræmia.

Albuminuria is a frequent symptom, but it varies considerably at different times. In cases in which albumen is abundant the diphtheritic exudation is generally large and the glands of the neck unusually great.

Hæmaturia has been observed in cases presenting symptoms of purpura. The duration of the disease is between one and two weeks. In fatal cases death may occur as soon as forty-eight hours; on the other hand the illness may continue for an indefinite period, owing to the sequelæ. The sequelæ of this disease form an important part of the clinical history; anæmia and general debility are likely to persist for a considerable period. Death may occur from syncope due to heart failure. Paralysis, involving both voluntary and involuntary muscles, is a characteristic sequel.

The lesions of the paralysis have been found in the central nervous system, in the spinal nerve roots and in the peripheral nerves. The anatomical basis of the paralysis does not seem to be the same in all cases. In several cases the lesions of a multiple degenerative neuritis have been found. The characters of the paralysis, particularly the usually rapid recovery, are in favor of the peripheral nature of the lesion in many cases.

Pathology.—When a mucous membrane is injured in such a way that its epithelium dies without desquamation, while its blood vessels are damaged and pour out an abundant exudation, it sometimes happens that the dead epithelial cells become saturated with the exuded liquid and then pass into a peculiar condition of rigidity akin to coagulation.

The seat of this change appears to the naked eye as a dull greyish raised patch surrounded by red and swollen mucous membrane. The exudation is rich in albumen, and the transformed cells take on the appearance of a kind of coarse mesh work, almost or altogether devoid of nuclei.

The subepithelial areolar tissue is beset with filaments of fibrin and leucocytes. Hæmorrhages are not uncommon. Inflammations of this kind, in which the tissue itself coagulates into a solid mass, are called diphtheritic. When the necrosis and coagulation extend only to the epithelium we may speak of the process as superficial diphtheritis. It is not necessary that the whole of the epithelium ultimately affected should perish at the outset; some part of it at least may perish secondarily in consequence of the inflammation.

Superficial diphtheritis occurs chiefly in the organs of the throat, but the conjunctivæ and the epithelium of the urogenital organs are also occasionally attacked. The structure of the respiratory organs and the intestines seems not to favor this form of inflammation. When their epithelium perishes from any cause it is usually shed or dissolved away and a croupous false membrane is formed instead of the diphtheritic coagulation.

Necrosis and lymph coagulation in the tissue are the distinguishing features of the diptheritic inflammation; whether it is superficial or deep its nature is the same—the new seat is of secondary importance. Deep or parenchymatous diphtheritis affects a greater extent of tissue than the superficial form. It is characterized by the coagulation, not merely of the epithelium, but also of the underlying connective tissues.

The affected patch is swollen and assumes a whitish or greyish tint, the discoloration extending through the epithelium to the connective tissue structures. The epithelium in some cases is lost altogether, and then the diphtheritic patch consists of dead connective tissue only. The patch is turbid and granular in texture, or it may be homogeneous or composed of amorphous hyaline blocks. The nuclei are always more or less completely lost. The small vessels which permeate the patch show signs of a homogeneous transformation of their walls.

The necrotic tissue is separated from the living by a zone of cellular infiltration. Fibrinous filaments are seen here and there through the mass. The lymphatics in the neighborhood contain coagula and leucocytes. Necrotic process may attack any of the mucous membranes ; it is especially common as a result of infection of one kind or another. It is often demonstrated that it is associated with the invasion of the tissue by bacteria.

The formation of the necrotic patch or slough is, of course, not the first stage of the diphtheritic process. The sloughs themselves act as irritants and set up inflammation around them. Superficial epithelial sloughs become in this way infiltrated with pus and so are loosened and cast off. The loss of substance is then made good by regenerative multiplication of the remaining epithelial cells. Larger and deeper sloughs may in like manner be separated by suppurative inflammation taking place around them, and the deficiency is then made up by the formation of a cicatrix, which in process of time may be covered over with a new epithelium.

But the process often maintains its destructive character for a considerable time, extending continually to greater depths, and often inducing intense purulent inflammation over a wide area around the initial lesion.

Sometimes the necrotic inflammation takes on a gangrenous character, that is to say, micro-organisms penetrate the diseased tissues and set up in them septic or putrid decomposition. The affection is then much more grave, for the products of decomposition act as highly noxious irritants in the tissues that are still healthy. Definitive suppuration may, however, in this case also lead to the separation of the dead tissues from the living and so allow the process of repair to begin.

Neuritis, simple or multiple, is due to the irritant being brought by the blood or lymph to the nerve inducing the inflammation, and is regarded as a direct result of the general infection.

The history of the cases on which is based the theory that cows may be susceptible to diphtheria, will be found in the following pages. The facts about three of the five cows were gleaned from the owner and attendant. The third cow had been sick three weeks before I was called, while the fifth and last was under my observation from the beginning. At the commencement of the outbreak there were four cows kept on the place. A cow was bought in September that did not contract the malady. Later in the fall two heifers were purchased and one of these, designated as No. 5, died the following March.

In the middle of July, 1893, a cow, whose time was about out to calve, was turned out to pasture on a side hill having low land at the base. In due time the physiological act took place, and the evening before it she was apparently all right. The next morning the cow could not get up and the calf was dead. The owner thinking the cow was spent from the exertion had her put on a drag and taken to the barn.

Arriving at the farm the cow got up and there was noticed a thick discharge from the nostrils; the lower eyelids were swollen, and there was a continuous flow of tears, besides well marked ptyalism. She had trembling spells (chills) attended with hurried respiration, paroxysms of pain, at which time she manifested mental disturbance.

The appetite was deranged, but she would eat and drink a little at times. The bowels acted, but not so often as normal. The back was arched, with periods of well marked straining, urination was quite frequent, and she wasted in flesh quite rapidly. This condition continued for six days, and she died in severe paroxysms. This animal was not housed with the rest of the herd, but there was only one attendant for all. The attention given this animal was smoking the head, washing away the discharges, and medicating her with such remedies as the owner and attendant thought desirable.

Seven days after No. 1 died, another was noticed to be sick, and the first thing to attract attention was a swelling of the eyelids with a copious discharge of tears. This was soon followed by a discharge from the nostrils and ptyalism, which was accompanied with a frequent attempt to swallow. Associated with these symptoms was trembling, arched back, tenesmus, soon to be followed by nervous hyperasthesia, which induced the owner to have her killed at the third day of her sickness.

August 12th the third cow was taken sick and presented the same symptoms as the others, but not in so acute a form as the second. I was called to see this animal after she had been sick for three weeks. I found her breathing short and quick. Her head was pressed against the wall, the conjunctivæ were swollen, the pupils dilated, and a copious discharge flowing from the lachrymal ducts. The discharge from the nostrils was thick, while that from the mouth was frothy. Her appetite was fair, and the functions of the body were normal, with the exception of the secretion of the milk, which was completely stopped. It being impossible to lead her any distance she was killed by bleeding, and the post-mortem revealed a congestion of the brain. The rest of the viscera were apparently normal, but the throat was not examined for reasons well known to some of this audience.

Nothing more went amiss with the cows until the following November, when on the twenty-fifth a fourth cow presented symptoms identical to the other three, with the exception of the fæces, which were black and covered with mucous. This cow died the second of December, 1893.

On February 25th, 1894, the fifth cow was taken sick with the same symptoms as the other four. This is the animal to which I referred earlier as the gift, the one whose sickness I watched throughout.

I found her (a heifer) with a temperature of 106 F., pulse very much increased in number, and the artery small. The respirations were very much hurried and trembling. The skin was wet with perspiration which stood out in drops. There was a copious discharge from the nostrils of a thin tenacious character, with frothing from the mouth. The conjunctivæ were swollen and the mucous membrane livid with a continual flow of tears. Auscultation of the lungs revealed well-defined mucous râles, which were very noticeable along the trachea, increasing at the larynx. Pressure on the larynx was objected to, causing the respiration to become audible, and at the same time causing the animal to swallow. The fæces were dark in color. The next day the breathing was still hurried, the throat was very sensitive to pressure, while the temperature had dropped to 103 F. under the influence of veratrum viridæ. The discharge from the mouth and nostrils had increased, and the secretion from the conjunctivæ was abundant. Her appetite was gone and she did not eat nor drink after the second day of her sickness, which lasted for eight days.

The fæces at first were dark in color, at times coated with mucous, but the last few days she had diarrhœa. Blindness became apparent toward the end of her sickness, and when standing she would press her head against the wall. The urine was at times bloody in color, according to the statement of the attendant, but when I saw it, it was thicker than normal and of a deep amber color.

During the times she was under observation, aside from the described symptoms there was nothing about her actions to attract attention. She gradually wasted in flesh and her strength diminished until the sixth day, when she aborted, being seven months gone. This was her first offspring.

Death ended her March 3d, two days later, at about 11.30 A. M., and it was so gradual that the attendant who was near by did not notice it. The post-mortem was made at 3.30 P. M.

Emaciated, no bloating, discharge from the eyes, nostrils and mouth; skin dry, shrunken, and with difficulty removed. The blood vessels directly under the skin filled with blood. On opening the abdominal cavity the blood vessels in the serous membranes were filled with blood. The spleen was atrophied, stomach and intestines were apparently normal; liver hypertrophied, with gall bladder full of a dark, viscid, tarry bile. The substance of the liver friable, yellowish in color, filled with blood, with capsule adherent. Lungs contained several hæmorrhagic infarcts. The pericardium contained a small amount of serum, dark in color, and the walls of the heart presented petecchial spots. On the outside of the auricles under the serous membrane was an amber colored apparently gelatinous exudate.

The cavities of the heart were filled with semi-coagulated blood. An ulcer was found on one side of the tongue near its base. The mucous membrane of the pharynx and larynx was covered with a yellowish-brown tough membrane that was adherent. A large elliptical ulcer was present at the base of the epiglottis, and the mucous membrane of the trachea for its entire length was dark brown in color with a similar adherent new growth as was found in the larynx. The bronchial tubes contained a large quantity of froth, but were free from the adherent membrane. This new formation was subjected to the microscope by Dr. J. M. Parker, and he was of the opinion that the Klebs-Löffler bacillus was present in the tissue. In order to confirm his opinion a portion of the tissue was sent to Dr. H. C. Ernst, of Harvard Medical School, and he reports as follows:

> Harvard University Medical School,
> Bacteriological Laboratory, Boylston and Exeter Streets,
> Boston, March 29, 1894.
>
> *Dear Doctor:*—We have found, in section of the material from the trachea of that cow, bacilli that in size and general appearance resemble very closely if they are not identical with the Klebs-Löffler bacillus.
>
> Dr. Whitney wants to know if you are going to be able to send that specimen for the museum.
>
> Very sincerely,
> Harold C. Ernst.

In connection with the report of these cases it may be of interest to know that the first week in August, 1893, the attendant of these cows was taken sick. The nature of the sickness was acute indigestion with severe pains over the entire body, attended by sickness at stomach, vomiting and purging. Accompanying this was a general lassitude and lameness. The attending physician pronounced it a case of la grippe. In November and again in the following March the same symptoms were developed. Since then he has been in perfect health, although the period of convalescence was long.

My attention was called to a cow, June 26, 1896, and I found her with a temperature of 102 3-5 F., pulse 54 and respirations 12. In conjunction with these facts ptyalism was abundant and frothy, a thick albuminous discharge from the nostrils but not profuse. Lower eyelids were œdematous, with a slight lachrymal secretion. She stood with the head carried to one side when she could not rest it on the fence. The bowels were torpid and the secretion of urine apparently checked.

The act of swallowing took place frequently, while pressure on the larynx was objected to, and at the same time the respirations became audible. Auscultation along the trachea revealed increased mucous râles in its upper third. When made to walk there appeared a partial loss of the power of co-ordination, so much so that she reeled. She had the appearance of being cold, for the hair along her back stood and pointed anteriorly.

The attendant informed me that she had had spells of trembling, and at or about that time she became uncontrollable. The secretion of milk dropped from six to one quart a day, that being the second day of her illness. The following day, June 27th, at noon, the pulse was 60, respiration 24, and the temperature 102 3-5. The discharge from the nostrils was more abundant and thicker than the previous day, conjunctivæ œdematous with abundant ptyalism.

Aside from these symptoms there was a marked shrinking or wasting of the body. During this period she would neither eat nor drink. At two P. M. she was started for the knackers, a distance of about three miles, by being led. Thrice on the way she had paroxysms of choking with acute ptyalism and a copious discharge from the nostrils. After a short rest she would again resume her walk. During the distance she did not cough. The bowels remained torpid, but there was an abundant discharge of urine. At the end of her journey she was turned into a yard and left for the night.

The next morning, June 28th, at nine A. M. I found her dead, lying with the head to one side and on her sternum. There was no evidence of a struggle, and under the mouth was quite a pool of saliva. Post-mortem at ten A. M. No bloating, skin wrinkled with the appearance of parchment, pupils dilated and a general shrinking of the entire body. The mucous membrane of the vagina was red with a mucous discharge from the same. On removing the skin the veins under it were filled with blood, and it adhered as if the animal had been dead two or three days. The abdominal viscera were apparently normal, with the exception of the kidneys, which presented centres of congestion. The larynx presented numerous grey elevations well defined; the mucous membrane at the base of the epiglottis was thickened and rough. The mucous membrane of the trachea and large bronchial tubes was studded with petecchial spots, and at places the ecchymosis was confluent. The smaller bronchi were filled with a frothy secretion. Pericardium contained considerable dark colored fluid. Ecchymotic spots were well defined over the surface of the heart, while along the edges of the auricles under the serous membrane there was a well-defined yellow serous exudate. The external coats of the large blood vessels at the heart were studded with ecchymotic spots. On opening the heart it was found to contain semi-coagulated blood, which was in evidence through the system. When the meninges of the brain were opened there escaped considerable clear serum. The blood vessels of the brain on the surface and in the sinuses were engorged with blood. The plexi of the ventricles were filled with blood, and the cavities contained considerable clear fluid.

The larynx was sent to Dr. J. M. Parker, of Haverhill, and he makes the following microscopic report:

AUGUST 29, 1896.

Dr. J. F. Winchester, Lawrence, Mass.

DEAR SIR:—The larynx of the cow shows in its middle ventricle an ulcerous patch about ⅜ of an inch in diameter. Posteriorly to the vocal cords there are also two raised epithelial patches showing on section a dense fibrinous exudate, beneath which is a mass of small celled proliferation. On staining with alkaline methylene blue (Löffler's) solution, numerous short, thick, slightly curved bacilli resembling the bacillus of diphtheria were seen. Yours truly, JOHN M. PARKER.

My object in presenting this paper is to stimulate further investigation in this subject that the true nature of this disease may be demonstrated.

Prof. Osler in his work on the Practice of Medicine, (edition 1892) says, "Cows are not known to be affected spontaneously." The literature relating to veterinary medicine (in English) that I have had the privilege of consulting, does not make mention of the existence in cows of such a malady.

Having presented to you the clinical symptoms and the post-mortem appearances as observed by me; a description of the microscopical lesions with the demonstrated presence of the organisms by those trained in such work, I leave the further investigation of the subject to those better qualified to carry it on.

DISCUSSION.

The President:—Gentlemen, you have heard this extremely interesting and all-important paper, and it is now open for general discussion. And I hope that this paper will be as freely and as speedily discussed as possible, so that we will be able to dispense with the great amount of business unfinished, and before us. I will call upon Doctor Gill to open this discussion.

Doctor Gill:—I know very little about diphtheria. What I have to deal with is the anti-toxine. I do not think I can say anything on the subject because I have not had any experience in that particular line.

Doctor Clement:—I have comparatively nothing to say upon this subject, except to congratulate Doctor Winchester, and the Association, for the able manner in which he has presented this subject, and I think we should be very much pleased that these cases have been brought before us in that they present pathological conditions which I have never met with, and which may possibly be of a diphtheritic nature. I was glad to see that Doctor Winchester was so modest in his remarks in simply stating the clinical symptoms as he found them, and the conditions met with at the autopsy, and having these examinations by those we have confidence in, who have a very great reputation in their line of work, and the fact that they say that there is a possibility of its being of a diphtheritic nature, it seems to me to be a compliment to this investigation.

The President:—I will ask Doctor Knowles to give us something in this line.

Doctor Knowles:—A number of years ago I had a series of cases that very closely resembled the ones described by Doctor Winchester. There were twelve or fourteen in the herd, and I think three or four deaths. The outbreak was characterized by a loss of appetite and exudation or discharge of mucous from one or both nostrils, and an apparent drying up of the skin of the udder, which eventually turned a dark terra-cotta color, leaving a rough surface for a few days. These cows had very sore throats. The milk secretion was considerably lessened, but not wholly dried up. I thought it more closely resembled scarlet fever, which is the twin brother of diphtheria.

Doctor Lyman:—I have been very much interested, as all of us have, in listening to this paper which was so new and exactly to the point. It seems to me to be a paper of particular value in, perhaps, giving the first information that such a disease as diphtheria exists in animals, and I think it may, without doubt, be looked upon as a valuable contribution to a subject in which we are thoroughly interested, or should be, to-day. If my memory serve me right, a series of cases were reported by a surgeon, a number of years ago, in Scotland, long before the diphtheritic bacteria came to be discussed, which he called diphtheria. There was some confusion, I think, about it in his line, as well as by some correspondents at that time, and it was claimed to be something other than diphtheria. There was no bacterial knowledge, as we say, at that time. There are certain suggestions coming to me which show, upon the description of symptoms given by Doctor Winchester, that the disease is rather uncommon, but still not unknown, which was described as malignant catarrhal fever of cattle. There may be some connection shown later on of the disease with malignant catarrh, and this disease remains to be found out. I thank Doctor Winchester for giving me the pleasure of listening to such a valuable and interesting paper.

Doctor Stalker:—A few cases came under the observation of our station just as I was leaving home, though I am sorry to say I did not have time to collect the facts in regard to these cases, but my co-worker in the station was sent to a farm seventy-five miles from the college where the disease had baffled the local veterinarians, which was affecting a herd of cattle. I got a few of the facts pertaining to this outbreak ; I think four deaths had occurred among calves that were kept together in rather a filthy yard. The symptoms as gathered from the owner were all I had. I think my co-worker did not see any of them alive, but made a post-mortem examination on the last one that died. The symptoms very closely resembled the ones in Doctor Winchester's paper, and some of the pathology shows very close correspondence to that indicated in the paper. The deaths occurred, as I recall it now, at an expiration of from four to six days in these cases. We have just arranged for a series of inoculations and experiments in our laboratory, to work upon the material of these animals, none of which is commenced, but we are in hopes of having some facts that will be of value along this line after a little, but my knowledge of these cases is very imperfect for the reasons stated.

Doctor Winchester:—I might state at this time that these four cattle that I spoke of in my paper were kept in a place where the platform in the stable was about six inches above the floor, and until the microscopic report on the case was at hand we had to content ourselves with the subject of mystery. But after having received that report from Doctor Ernst the subject of mystery was laid one side, and the carpenter and mason were employed to change things, and since that time no other animals have been affected in that dairy. In other words, the barn was torn to pieces and cleaned and fumigated. Underneath the feeding box, of course it was not water-tight, and the discharge from the animals permeated the floor beneath it, and that was one great source of the disease. If there is any possibility of trying this material to prevent the disease from affecting the other animals I think the theory is very acceptable. The second case that I read there, the isolated case, was on a farm where the day previous to my coming, or day before that, there had been taken sick a cow which presented symptoms identical to these others, and the owner—or rather, the foreman of the farm, the owner was not at home at that time—made up his mind that it was the result of eating sheep laurel in the pastures. The owner, with whom I am well acquainted, knowing of the investigations that I had made at the neighboring farm three miles away, called me in and suggested, "was not this similar to the cases that I had three miles away." I was only sorry in that case that we led the animal the distance we did. In doing so, in taking her away, we did so for sanitary precaution, and I think the exercise of going that three miles hastened her death; otherwise, we would have had some very valuable information and microscopical reports, but they corresponded with the pathology laid down on that subject. At this second farm, I have not heard of any subsequent deaths.

Doctor Knowles:—My attention was first called to this outbreak that I have mentioned, by seeing Mr. S's. wagons stopping at so many places where diphtheria was prevalent, and it will be remembered that that was one of the most virulent outbreaks of diphtheria, and at almost every house that those wagons stopped at where they had children there was diphtheria, and nearly all of them had deaths.

The President:—The time has elapsed in which we can discuss this paper, and we will have to close, and I will name a committee to further investigate the case and report back to the convention in 1897.

On motion, the discussion was closed, and the President named as such committee Doctors Stalker, Gill and Lyman.

[WRITTEN SPECIALLY FOR THE AMERICAN VETERINARY REVIEW.]

FOOD—ITS USE AND ABUSE.

By A. S. HEATH, M.D., V.S., BROOKLYN, N. Y.

Food and protection are the primary demands of animal life. But as the former is the present topic of discussion it will receive sole attention here.

From 50 to 64 per cent. of the family income of working people is spent for food. And as economy is the source of wealth it behooves so large a purchaser of food to use reasonable economy. And in order to render some service, we indicate some economic items worthy of consideration.

The average expenditure for food of the working people of Germany is 53⅔ per cent. of their wages; of the English 51 per cent.; and of Americans 58⅘ per cent. The balances left must cover the cost of preparing food, rent, clothing, and all other expenses.

It will be well then to study economy in the purchase of food. Is "the best the cheapest"? This motto may prove true in many respects, but it will not hold good in the purchase of food. The cheapest food is that which supplies the most nutriment for the least money. "The most economical food is that which is the cheapest and at the same time best adapted to the wants of the eater," says Professor Atwater. The food that brings fancy prices is not necessarily the most economical or healthful, though many people estimate values by prices paid. In this way too many sacrifice money to pride. If we look at food values we shall find that a quart of milk, three-quarters of a pound of moderately fat beef, and five ounces of wheat flour, contain relatively the same amount of nutriment. But their relative values are widely different. Though milk is the most perfect food for the young, it is not necessarily so in all the conditions of middle life. And though the old adage says "bread is the staff of life," yet, its nutritive elements are not in the best proportions for man or animals to live on. Nor is meat a perfect food, but meat, and bread, and milk, variously combined complete a diet containing the nutritive elements of foods, when properly combined, best suited to health and life, and best combined with economy.

The elements of which the animal body consist must be represented in the food consumed. The animal body is made up mainly of four classes of substances—water, ash or mineral ingredients, of fat, and of nitrogenous matters.

Water constitutes from 40 to 60 per cent. of the body, and is an essentially necessary part. Ash constitutes from 2 to 5 per cent. and is mainly made up from bones. The fat is the most variable in quantity and according to the condition of the animal it varies from 6 to 30 per cent. The nitrogenous or protein materials, represented in lean meat, white of egg, cheese, in milk, etc., forms from 15 to 17 per cent., and is found in the flesh, the skin, bones, muscles, internal organs, tissues, brain, nerves, and all the working machinery—vital machinery—of the body.

Water, though not in chemical combinations in the animal body, nor in the food, yet, is as essential to the perfect performance of the animal functions as it is in the inter-oceanic commerce of the world.

"Blood and muscle, bone and tendon, brain and nerve—all the organs and tissues of the body—are built from the nutritive ingredients of food." Every movement of body or mind —thought, feeling, the sigh of sadness, or the emotion of love or affection—wastes the elements of body or brain; and this waste must be made up by a suitable supply of appropriate food.

The principal physiological uses of food are to form the material of the body and to repair its waste; to furnish heat to keep the body warm and the tissues supple, and to furnish muscular and mental power for the work of life. It is estimated that a pound of protein will furnish 1,860 *calories*, a pound of fat 4,220 *calories*, and that one pound of carbohydrates (starch), cellulose and such non-nitrogenous food substances—1,860 *calories*. This is a comparative estimate of the vital energy produced in different kinds of food elements. The French use the term calories as a standard unit of heat, or the amount required to raise the temperature of one kilogram (2.2 lbs.) of water through 1.8° Fah. and its equivalent in mechanical energy to 1.53 foot-tons.

Protein is the most expensive food element; and if the proportion is greater than 1 to 5 of carbohydrates in that consumed by man or animals, that excess is just so much waste. And this excess is productive of evil results if in excess of the demands of the animal system, and is productive of gout in man or founder in the horse, and many other evils, of which it is irrelevant to notice here, yet, I cannot refrain from quoting Sir Henry Thompson: He says: "More than half the disease which embitters the middle and latter part of life is due to avoidable errors in diet, * * * and that more mischief in the form of actual disease, of impaired vigor, and shortened life accrues to civilized man * * * in England and throughout central Europe from erroneous habits of eating than from the habitual use of alcoholic drinks, considerable as I know that evil to be."

The proper proportions of food elements, the amount re-required, the palatability, digestibility and assimilability, of these has very much to do with the usefulness and economy of human and animal foods.

(*To be continued.*)

NAVICULAR DISEASE (NAVICULAR ARTHRITIS).

By H. S. Drake, of Virginia.

A Paper read before the Virginia State Veterinary Medical Association.

The veterinary profession is indebted to Mr. James Turner for a knowledge of the seat and cause of the disease known as Navicular Arthritis. He first alludes to it in the year 1816, and though eighty years have rolled away, little has been done since his day revealing new pathological or even etiological changes or discoveries.

Etiology.—We comprehend more fully how navicular disease may be caused when we recall the peculiar anatomy of the parts involved in the process, and the function that is performed by locomotion. The anterior extremities have the bulk of the body weight to bear, and their support is by elastic sling muscles which bind the shoulder to the body, thus greatly dissipating the shock to the foot. Then the foot is composed of elastic material throughout, protecting the sensitive structure, but even this is not sufficient of itself to protect the foot from injury, so nature has further provided for exigency by placing the coffin joint on the posterior part of the coffin bone instead of directly on top of it, whereby a large part of the shock of locomotion is dispersed before it can reach the vertical column represented in the cannon, knee, and arm bones. In addition to these provisions the frog, plantar cushion, flexor tendons, interarticulæ cartilages and connective tissue are interposed to break the concussion and shock.

Such are the means provided for dispelling the shock to the joints and vertical bones, and ample as they seem to appear they, nevertheless, fail to relieve the parts from concussion and excessive pressure of the sensitive structure within the hoof, due to rapid pounding over hard surfaces.

Hence there arises a bruise of the navicular bone, the bursa in connection therewith and the perforans tendon, and the disease is chiefly found in those animals that are high knee actors or rapid pace makers.

Professors Smith and Law differ as to the class of horses among which it is most commonly found.

Smith says, "It is rare in racing, hunting, and even in trotting horses, so long as they are used on the turf."

Law says, "The thoroughbred is more commonly affected with the disease than any other."

But the fact is that beside the exciting causes, must be considered the predisposition in individual animals, most prominent among which are heredity, and vice of conformation, and added to this the environments of domestication and use, such as dry stables, *i. e.*, board floors in stables, hard and fast work, bad shoeing, and puncture wounds.

Mr. Turner writes: "Contraction mostly takes place in animals that have been accustomed to be shod before the age at which they have attained their highest value for work, viz., five years, but this contraction is not, however, necessarily connected with lameness. The next deviation from nature is the passive state to which the foot is subjected for 24 hours, and sometimes several days. Compare this with the few hours during which a horse in a state of nature, that is, roaming at will in the pasture field, is in a quiescent condition, and there will be no cause of surprise in the change of form, position, character and the state of contraction which takes place in the foot deprived of its natural pressure and motion. The first consequence of contraction is the gradual displacement of the os navicular and os pedis bones; they ascend within the hoof, and an unnatural arch is formed by the ascent of the frog. The delicate synovial membranes lining the joint are crushed and bruised by the very material which nature had bestowed as a defense."

We learn from this writer that the bruising of the synovial membrane lining this joint is the veritable source of this disease, it is engendered in the stable, but becomes permanently established by sudden violence out of it. Horses doing fast work on our hard roads, and those subject to the whims of fashion by being trained to high knee action are the ones that suffer most from this dreaded disease.

From the time of its discovery, Turner shows conclusively that he was acquainted with the cause of navicular disease, and its pathological changes.

Symptoms.—In the early stage the symptoms are obscure. The animal may be taken suddenly lame for a few days and then the lameness may entirely disappear for a short period, only to reappear in a more violent form, which finally becomes constant and aggravated. In the primary stage there may be heat about the base and posterior part of the foot. But in some instances there is no perceptible change in the temperature about the parts. One of the most characteristic symptoms is pointing of affected foot when at rest, and clean appearance of limb due to atrophy of muscles from imperfect use. This may be seen before the lameness is manifested. The affected foot always takes a short step and the toe of the foot first strikes the ground, so the shoe is most worn at that point, shows a stumbling gait, and when both feet are affected at the same time, shows a stilty movement, as though he had both legs tied closely together. When made to work shows much pain and sweats profusely, also shows much pain on pressure over the seat of disease. There never was yet a philospher who could withstand a toothache, but think of a poor horse with 20 toothaches compressed into one agony. The leg is bent with difficulty and with pain, owing to the flexion of the perforans tendon upon the navicular bone. The process of this disease is mostly inflammatory, followed by ulceration, necrosis, or ossification of the bones of the coffin joint. If the disease is of long standing you will have marked contraction of the horny substance of the foot.

Prognosis.—Prognosis of this disease is very unfavorable in cases of long standing owing to its destructiveness to the joint and its membranes involved by this disease.

Post-mortem.—Numerous dissections have shown that the navicular bone and tendons forming that joint, are invariably the seat of this obscure disease. The cartilage of this joint has been found in an ulcerated condition with the bursal membrane destroyed ; the bone showing caries in bad cases, and in others bony adhesions have taken place in the joint formed by the navicular bone and the os pedis, and in a few cases the foot has become disorganized and useless by the ravage of this terrible disease.

Treatment.—Nothing has yet been found by the profession to be a cure in an established case of navicular disease if disorganization has taken place. But many would have us believe that they have the sure and only cure. But in cases where a cure has been effected it is certain that disorganization has not occurred in the parts affected. We have a number of palliative remedies, that are in vogue to-day, of which neurotomy stands at the head, and is mostly resorted to by the profession in city practice. The common remedy to relieve the suffering animal is had by paring the foot well down, rasping the walls at heels thin, then placing in a tub of medicated water for a few hours soak each day until a new growth is established ; this may be carried too far by getting the foot spongy, which must be avoided. The soaking is followed by a good blister around the coronary substance. After the action of .the blister has subsided, an expanding spring placed in the angles of the heel, and shod with light tips and turned out on a meadow bottom for a period of rest is a common treatment.

It only remains to be said that in all well-regulated stables care should be taken to keep the horse standing with his front feet resting on clay, or in the absence of clay to stuff the feet periodically with flaxseed poultice or clay mixed with vinegar.

To give regular exercise, and to avoid severe usage on hard roads, and frequent careful shoeing.

HYPOSULPHITE OF SODA IN TETANUS.

By M. J. Jones, V.S., Cuba, Ohio.

Having followed the profession for a livelihood for more than a score of years, I have concluded to give you my experience in the treatment of that too-often fatal disease, tetanus. In doing so I cannot help feeling my inability to handle the subject in a masterly way. But, nevertheless, experience is experience, and I have not only had experience, but have assiduously perused every particle of literature that I could possibly obtain on the subject of veterinary medicine and surgery. Therefore, I feel that I might be able to entertain your readers for a short time.

After carefully studying White, Mayhew, Dadd, Percival, Youatt, and other works of their day, I commenced treating tetanus by venesection and catharsis, counter-irritants along the spine, followed by powerful antispasmodics and sedatives. Consequently, I had to bear the chagrin of seeing a large proportion of my patients go to the bone-yard. I continued this course of treatment for several years, with no other consolation than the queries arising in my own mind: "Who knows more about the treatment, and who can find out sooner than I can?" But after a series of failures, followed by disappointment and disgust, the writings of Robertson, Williams, Dun, Law, Liautard, Greene's "Pathology and Mörbid Anatomy," Pasteur, Koch, and other modern writers came to my notice, and were devoured with avidity. Soon light dawned upon the horizon, and success followed my efforts. I was glad to know that with the aid of modern science I could in a large proportion of tetanic cases relieve the poor dumb animal from his sufferings and bring about a favorable termination. After reading Prof. Robertson on the subject where he says: "On this hypothesis the true cause of tetanus is regarded as some morbific agent which, being received into the animal's system, finds its way through the blood to the spinal centres, for which it has a special affinity, there distributing by mal-nutrition its normal dynamic action." I began to see what I had long suspected, that the disease was not caused by pain, as we had been taught heretofore, and that it could not be cured by antispasmodics and sedatives, and that counter-irritants or any other agent that caused the slightest pain was harmful. I then became satisfied the disease was caused by a germ and began to look about me for some germicide or bacteriacide which could be conveniently administered without exciting the patient. This I found in hyposulphite of soda. I also found that the impure blood had a very bad effect on the nervous system. Therefore, while we are purging the blood of the bacteria we must also look after some nerve sedative to control the nervous system, which we readily find in bromide of potassium. Now, let us see what we have been able to do by this line of treatment. I have 34 cases on record treated with the above medicinal agents; 23 of these patients made a *perfect* recovery and are living and performing their usual labor. (This includes all cases treated with these remedies.) It would occupy too much of your valuable space to describe all these cases, but I will favor you with the particulars of one or two. Therefore, I will proceed to give the *modus operandi.*

On July 30, 1893, I was called to see a bay filly, four years old, well-bred and belonging to a Mr. H., living some eight miles from my office. On arriving at his place of residence found the patient very stiff, with nose protruding, tail slightly raised, membrana nictitans covering a portion of the eye, locomotion considerably impaired, walking almost without bending the joints, temperature slightly elevated, pulse normal (excepting when the paroxysms came on, which was only when something frightened her). Diagnosed tetanus and called for history. Was told the animal was perfectly well until two or three days before, when a slight stiffness was noticed in posterior extremities, which gradually increased until the present time.

Asked owner concerning any injury; was told there had been none, first symptoms appearing while in pasture. On examination found a slight cicatrix at the point of shoulder. On inquiry found she had had a trivial injury at this point in the month of May previous, which had healed readily by the application of a little axle grease. I expressed my opinion that this was where the trouble began, which was received with a certain amount of incredulousness. On looking about, I found a small stable entirely isolated from any other animal of the equine species. With very great difficulty we got the animal to this building. Upon examination I found the incisors open perhaps one-third of an inch; bowels very much confined. Gave potassium bromide, ʒ ij, in a gallon of cold water, which she swallowed in the course of an hour by sucking it through her teeth; scalded three pints of bran, and one of oats, and put it where she could have access to it, and left orders for no person to enter the building, but to give small quantities of fresh water every three hours, with bromide, ʒ j, to be put through a hole in the wall opposite the manger. Left hyposulphite of soda, ℥ ss, to be given at one dose in the evening.

July 31st called again, and found all the symptoms aggravated; had not partaken of any solid food; owner badly discouraged. Gave him a sedative in the way of nice talk and gentlemanly treatment, interspersed with a few stern commands. On examining patient, found the bowels had not moved, nor could I find any indications of urination; substituted skimmed milk with oatmeal gruel for the water; gave bromide same as previous day; gave two doses of hyposulphite instead of one during the 24 hours; paid no attention to bowels or urinary organs.

Called again on Aug. 1st and found no change for the better; owner quiet and submissive. Continued treatment, and on the third or fourth day found signs of urination and slight defecation; patient standing obdurately in the same position; gradually decreased the bromide as the nervous symptoms disappeared, but continued the hyposulphite, giving a dose of the bromide when there was any nervousness noticed more than usually. On the last of second or first of the third week noticed very great tension of the epidermis, so much so that it was almost impossible to notice any motion of the abdominal walls in respiration; slight tumefaction of superficial lymphatics, with very great irritability of animal when the hand was placed on the epidermis. Continued hyposulphite in ℥ss doses, increased diet by adding more oats and a pint of middlings or shorts.

On calling again in a few days found swelling of lymphatics nearly gone, with yellow, gummy, aqueous substance oozing from the surface; bowels relaxed, fæces taking on a normal appearance, appetite good, locomotion improving, coat of hair slipping, being replaced by a fine glossy coat; still considerable irritability, so much so that the animal had to be watched continually to keep her from injuring you while in the stable. On calling again found the patient liked to be rubbed on the neck and shoulders, but very irritable on the posterior extremities. Animal continued to improve from day to day until she enjoyed two or three good rubbings with comb and brush each day. She made a perfect recovery in forty days from time of attack, standing obstinately on her feet for over thirty days and coming out without a scar or blemish, with a fine coat of hair and apparently weighing at least 100 lbs. more than when attacked.

Now, this is almost an exact description of all the cases treated with this medicine. But, with the indulgence of the editor, I will describe one more case, in which there was no bromide used (excepting one dose).

On Sept. 11th, 1895, was called to see a sorrel draft filly, two years old. When I arrived the owner told me that the animal was stone blind, that she had fallen over the fence into the road and tried to follow his mother-in-law and two children, who had started to town in a road-cart, but that she could not see and had fallen over the occupants of the cart, causing slight injury to the woman and children and demolishing the cart. I found her in a very excitable condition, nose protruding, membrana nictitans covering more than half the eye, nostrils dilated, respiration greatly accelerated, animal constantly on the move, head and tail erect, joints so stiff that they scarcely moved when walking, excitement so great that it was impossible to take temperature without causing animal to fall. The history was that she had the sole of her forefoot punctured some two weeks before, which was treated by the smith. I secured for her a box-stall, with board floor ; thoroughly cleansed the walls and floor washed with carbolic acid ℥ ss, aqua Cv. With difficulty got the animal into this stall, where there was plenty of fresh air. Gave bromide ℥ ss, in drinking water, watched patient until partially quieted, then tried to take pulse and temperature, but the animal became so excited that I desisted ; left hyposulphite of soda, ℥ ss, to be given at night. Called on 12th and found patient quiet ; had taken medicine well ; trying to masticate a few corn blades ; limbs swollen ; no defecation ; had taken some nourishment in the shape of sloppy food. Owner very much discouraged, wanting to destroy animal ; gave kind advice to owner, with some explanation, which seemed to have the desired effect ; ordered stall disinfected daily ; tried to examine wound, but failed on account of stiffness and excitability. Continued hyposulphite, ℥ ss ; aqua, Ci, to be given *ad libitum* until ℥ iss had been taken in the twenty-four hours, with orders not to force any medicine or food on patient but to let her take nourishment and medicine at will. I then left, with a determination that the patient should have no medication but *hyposulphite of soda.*

Called on 13th, and again found patient with extremities much more elevated, had not moved her feet an iota, had refused her medicine and had partaken of very little nourishment. Bowels had not moved, but slight indications of urination ; ordered stall sprinkled with carbolic acid solution, fresh food and medicine kept constantly by her, and left, wishing I had studied for the ministry. On 14th returned, with grave doubts as to condition of the patient ; was told she had taken all the medicine offered her, also a quantity of sloppy nourishment ; limbs swollen to body, stopping abruptly in a large roll at the stifle, extending along the surface of abdomen, tension of epidermis very marked ; had not moved a peg and could not move. This tension continued several days, and disappeared by the pores of the skin, oozing as a gummy, watery substance. All over the superficial muscles could be seen pills from the size of a pea to that of the ball of your finger. Animal shed the entire coat, as in the former case, commencing at the anterior extremity. Hyposulphite still continued, with slight intermission of one day or night, when she refused to partake of it ; same irritability was present as noted in all the cases treated (noticeable just before exudation and exfoliation). Animal made a perfect recovery in four weeks, standing stock still for three weeks. Was informed by owner that she thrived better than she had ever done before, as she had been troubled with intestinal vermin nearly all her life, but was perfectly clear of them ever since her sickness. The patient took no medicine but hyposulphite (excepting one dose of bromide).

I will not intrude any longer on your readers, unless requested by the editor to furnish particulars of other cases, but will close by stating that I have tried morphia, atropia, physostigma, hydrocyanic acid, venesection, and catharsis ; have brought the barbaric sling into requisition, but my efforts have been a failure until I commenced the use of hyposulphite of soda. Nor have I failed where there were no sanitary precautions taken, for I have treated traumatic tetanus in old log stables with clapboard roofs that had not been cleaned out or disinfected for years, the poor animal standing in filth nearly to his fetlocks, with the rain dripping on him, with no one to administer to his wants but the patient housewife (the husband being entirely disgusted and refusing to lend a helping hand). But with time and the aid of hyposulphite have been able to bring about a perfect recovery. All the cases I have lost have died in the first seven days, when the animal could not be induced to take enough medicine to have the desired effect on the blood, or by accident caused by the carelessness of the attendant.

Now, Mr. Editor, if hyposulphite of soda is not the *best* remedy for tetanus, nature must be a great physician. "It is good for us to reason together." As I said in the beginning of this article, I have not had the benefit of a classical veterinary education, nor have I consulted personally with other veterinarians, but have fought the battle out, with no other assistance than my patient in the field and my library in the office (which is as elaborate as my means will permit of). But I have arrived at the following conclusions: that the hyposulphite has some specific action on the blood that destroys bacteria and forces the impurities to the surface, thereby engorging the capillaries and compelling them to relieve themselves by exudation, for in no case that I have on record has there been any engorgement of the limbs or capillaries until after the hyposulphite had been given, and in most cases not until several ounces had been administered.

Now, brother practitioners, some of you study out a plan to support life until we can get an action from the hyposulphite, and we have the disease under control.

Hoping that my readers who have had the advantage of a broader education than I will look over my errors, and pardon my presumption, I will await your judgment.

FIGHTING TUBERCULOSIS IN VIRGINIA.

By W. H. Harbaugh, V. S., Richmond, Va.

Address to the Virginia State Veterinary Medical Association.

Gentlemen:—In retiring from the presidency of this association which I have held continuously since its incipiency, I must express my satisfaction on two particular points: the first is that I have earned a rest, and the second is that during my terms of office we have accomplished all that we have undertaken for the advancement of our profession in this State.

To the set of officers who will to-day succeed the present incumbents we give a complete and smooth working machine which has been a power in this Commonwealth, and which should continue to be a power, increasing in strength and influence as numbers are added and as years roll by. It is almost incredible to think that this present association with its present membership sprang from the handful of veterinarians who met in my office not quite two years and a half ago for the purpose of taking some step to check the incursion of the quacks with diplomas, and with the determination of doing what we professed to be able to do. Four of those six who organized this association are still with us; they may be truthfully called the "old guard," they are here to-day, and they have never failed to attend a meeting since we met to organize. No matter where the meeting was held, whether up in the mountains in the extreme western part of the State, or down here by the sea-shore in the extreme east, these same earnest men have been on hand to contend for our personal rights and professional privileges. They recognize the fact that membership in this association is not a mere name; they fully realize that this association is a State institution, and made such by the State legislature, and that membership in it is a responsible position, and now it is to be seen whether or not others have the courage to sacrifice time and money to carry on the work so well begun.

While it is true that pleasant social features have had a prominent place at all our meetings, still we are not banded together for mere social pleasure. We were incorporated by the legislature to elevate the standard and advance the interests of our profession. We were made a State institution with a duty to perform to the people as well as to ourselves, and here the question may well be asked: Have we performed that duty? In reply we can proudly point to the laws of our State and say we have.

In a little more than two years we have accomplished much. Our calling has been uplifted from its past degradation and put on an equality with the other learned professions; we are now recognized and legalized.

Questions in regard to contagious diseases are now referred to a member of the veterinary profession, instead of to the honest farmer, political granger or a jury of laymen.

What we have done is done well, but our whole duty is not yet done. We have a gigantic undertaking on our hands in our efforts to secure local dairy inspection for the different cities throughout the Commonwealth. We have to fight a monster which stretches forth its arms in all directions and clutches within its grasp all who can be controlled by fear, favor or value received, and this monster is the wealthy breeding interest which makes a hobby of high-priced pedigree cattle until it tires of them and then unloads them on the unsuspecting dairyman to infect his smaller herd with tuberculosis.

Even from our standpoint there are two sides to this tuberculosis question. The first is the public health, and I care not whether a man believes there is much or little danger in using the milk or flesh of tuberculous animals through risk of transmission of the disease to the human being, it is certain that such milk and flesh should not be used. Milk is a part of the cow and therefore animal matter, and if the cow is tuberculous her milk is part of a diseased cow; it makes no difference how much it is boiled it is still part of a diseased cow, and should not be used for human food. The same proposition applies to meats from tuberculous animals, no matter how thoroughly sterilized; and it disgusts me to hear our would-be veterinary politicians talk of using such meats the same as they do for the lower classes in Europe, when we have meat to spare for the world. No, gentlemen, we are not in Europe, and do not have to devour diseased products to prevent starvation. Let us be consistent and fight against diseased animal products being used as human food. Another thing that surprises me is that there are veterinarians occupying high places who have the insufferable gall to tell us that milk from tuberculous herds when fed to pigs does not produce the disease in them and that there is little danger of its producing disease in the human being! These are breeders' opinions, whether uttered by veterinarians, agricultural journals, or other hirelings. No man who sees the post-mortem lesions of a few tuberculous dairy cows wants milk from any such animals in his house—danger or no danger.

The other side of the question is the dairyman's side; we should protect him also while we are endeavoring to protect the public, and warn him against purchasing thoroughbred cows to increase the richness of his milk simply because he can buy the cow cheap. It would have been much better for all concerned if the price of the thoroughbred cow had remained high and beyond the reach of the average dairyman, for in that case there would have been an inestimably less amount of tuberculosis among our common cattle.

When I opened up this present campaign against tuberculosis I was well aware of the fact that I was sacrificing money, practice and some friends; I knew that I was exposing myself to unjust criticisms, abuse and falsehoods, but it did not deter me; I have waged the war now for more than two months and the result is that the public is acquainted with facts they should have known long ago, and the great majority is on our side and is demanding what we are contending for, and if I am not a false prophet we will have it in the very near future.

This question involves very hard work, but after what we have already accomplished nothing should be considered too hard to attempt, and if you go at it earnestly we will succeed. My plan has been to force the question in season and out of season and make an object lesson on every possible occasion.

When we have forced the institution of local dairy and meat inspection the breeders and dairymen will be only too glad to help us to force the State to make sufficient appropriation to make an effort to stamp out the disease, or at least to check its spread, and when a sufficient number of States go into the question it will soon be discovered that the question is a national one, and the national government will have to take hold of it and handle it after the manner in which pleuro-pneumonia was handled, and the sooner such a step is taken the less it will cost the nation.

Mention should be made of the splendid work done by our efficient State Veterinarian; many of you are aware of the stand he has taken in this war; he has put his shoulder to the wheel and has kept it there in spite of all the threats and bluff of the opposition, and when our work is crowned with success Dr. Niles will come in for his full share of credit.

Now, gentlemen, I desire to warn you that we have stormy times ahead. Vigorous attempts will certainly be made to have our examining board law amended or repealed, and we must be on the lookout so as to be able to counteract every such attempt even before it is made, if possible. We have already received notice that the law for the control and prevention of contagious diseases will be attacked and we must never lose an opportunity in making friends for it, for you may rest assured that it makes an enemy of every man who suffers by it. We must look to the officers of the association to guard its interests, and we will hold them responsible for any neglect.

AN ANOMALOUS DISEASE OF THE HORSE.

By T. B. Newby, V.S., Pana, Ill.

A Paper read before the Illinois Veterinary Medical Association.

At the request of our worthy State Veterinarian, Dr. Trumbower, I will give a brief description of a disease which for want of a better name we will title under the generic term of "anomalous." And to me 'tis a very anomalous one indeed. My first experience was in January, 1895, in a few sporadic cases in Christian County, but, beyond a death or two of inferior animals, no great loss was experienced, until February, 1896, when an outbreak occurred in Shelby County, alarming the horse owners of the community, owing in some respects to bearing a resemblance to glanders. I will mention one farm which I visited; the cases and circumstances found there will offer as citations to serve my purpose, as they were a fair type of the cases coming under my notice. The horses on this farm were divided into two lots by a public highway; one lot on north side of road running in woods pasture, receiving corn twice daily and cornfodder; were quite healthy. While those south of road, with same surroundings, except receiving straw *ad libitum* from an old straw stack, grown during the extreme drouth of 1894, were all sick; two having died, and two more shortly after.

Symptoms.—Beyond a dull, listless appearance, there were few outward signs of suffering, except in an occasional case just before death, many dying without manifesting signs of deep distress. Upon approaching an animal, you would be greeted by a most offensive odor of decomposition, worse than gangrenous pneumonia, the odor coming from a sero-sanguineous discharge from one or both nostrils. Patches of petechiæ were present on the septum nasi; sub-maxillary glands slightly enlarged and indurated; a weak ramolescent pulse, ranging from 60 to 80; temperature from 102° F. to 106° F., constantly increasing in fatal cases. Appetite good in most cases.

Post-mortem.—Upon exposing air chambers, a dark gangrenous condition of nearly the entire surface of the superior maxilla was presented. Near the base of the ethmoid was a clot of blood with visible signs of a recent hæmorrhage. Lungs nearly normal, otherwise than œdematous. Liver badly congested with venous blood and bile. Kidneys to a casual appearance quite normal. Spleen, semi-fluid owing to the rapid blood changes. Stomach and bowels, to my surprise, seemed practically normal, and all signs of mycotic influences absent, as the ante-mortem symptoms indicated.

Etiology.—In every case coming under my care I believe the cause to be a specific one contained in the straw; but I do not believe it due to the white muscaradine fungus affecting chinch bugs, but rather to a germ from the soil, developed by the extreme drouth, during the summer of 1894; then the growing crops of the sections mentioned were prematurely ripened; yet, what form and how communicated it is not my purpose to speculate.

Treatment.—Discover the source, and remove it. Give bran mashes with oil cake once daily. Oats or corn with hay. Heroic therapeutics are unnecessary. Glycerine as a basis with campho-phinique, applied locally, and may also be given internally to arrest the fœtor with advantage, with possibly, in many cases, quinine in full doses.

In closing I will say I do not consider this disease of very great importance, but rather the circumstances influencing it, viz., the extreme climatic period, which has been such a menace to agriculture, and so hazardous to the live stock interests in some sections of Illinois the past three years.

REPORTS OF CASES.

PUNCTURED WOUND IN PELVIC CAVITY.

By W. F. Derr, V.S., Wooster, Ohio.

A boy of 14 years brought a bay mare, aged six years, to my infirmary, telling me that she would not eat, etc. I made an examination of her, and found the pulse 60, somewhat angry; temperature, 105½, respirations about normal; seemed to suffer some pain. I looked her over carefully, and asked all the questions I thought necessary in order to make a diagnosis, but could get but very little information from the boy. He told me he had been riding her to a country store on the evening of the 18th, and that she had eaten all of her feed until last evening, during the night and this morning. There was some stiffness in the lumbar region on moving her, but examination over that and the abdominal region failed to reveal enough to make a correct diagnosis. I told my barn-man to put her in a box-stall, and in about half an hour I again made an examination. She stood in about the same place where we had left her. On approaching her about the flanks she seemed to have some fear, and would cast her head around toward me. I certainly looked her over carefully and had to make up my mind that I could not diagnose the case correctly. I therefore concluded to treat symptoms, and wait for further developments. I feared peritonitis; therefore, gave a dose of opium and calomel at the time. In four hours ordered her to have small doses of aconite and belladonna, with quinine, gr. xx. Being very busy at the time, and would be away most all of the day, this treatment was continued until the 21st. After again looking her over and finding the pulse about 60, still angry, temperature 104½, respirations normal, unless I would manipulate her flanks, which would increase them, I had my man lead her out of the stall; she walked stiff and drawn up; seemed to have pain in the lumbar region; yet examination revealed nothing. She had not defecated during the night. I therefore had my man to give her a rectal injection of warm water, and gave about the same internal treatment as I had the day before, and again left to make my calls. On returning the man told me in giving her the injection it seemed to pain her; and that when she passed fæces she backed up to the wall. I thought I should now find out what the trouble was with her. Examination per rectum revealed a rupture of the mucous membrane about three inches in length, about the middle of rectum, on the right side, with a clot of blood, which I removed; washed out the cavity with solution of carbolic acid, etc. The thought struck me at once, how could this have been done without there being any hæmorrhage? The boy seemed to know nothing about it. When he returned in a few days to find out the condition of the patient, I took him to task about it, when he admitted that a shaft had penetrated her rectum, and had not caused an external injury that was visible. He also admitted that there was some hæmorrhage that evening and the next morning, but that he had cleansed the parts, etc. The reason for not revealing it was fear of punishment from his father. In running a race with another boy having a horse hitched to a sulky of the old-fashioned high kind the shaft penetrated the rectum.

I gave her laxatives, anodynes, and washed out the wound well with antiseptic solution, so that in three weeks time I sent her home cured.

I write this not for what the case was, but how a wrong diagnosis could be made by not having a history of the case, and by my not making a rectal examination of it at my first observation. I certainly was taught a lesson to always make an examination of these parts when all other signs failed, and hope my experience will be a benefit to some of the young members of the profession.

A CASE OF SUBNORMAL TEMPERATURE.*

By W. H. Harbaugh, V.S., Richmond, Va.

Oct. 4th, 10 P. M., a chestnut gelding was brought to my hospital with symptoms of aggravated heaves. Owner had noticed the abnormal breathing and cough for the past three weeks, but never saw the horse in such an alarming condition as he found him this night. Owner stated that the food was good, so far as he was able to judge. I attributed the condition to either an overfeed, or feed of bad quality, and administered a bolus composed of aloes, bicarbonate of soda, and creolin; I also gave on the tongue a dose of fl. ext. cannabis indica, to allay the cough, which it did in a short time. Owner said that the horse had been worked to buggy very little each day for some time past. Horse was taken home.

---

*Read before the Virginia State Veterinary Medical Association, June 24, 1896.

Oct. 5th. Horse brought back about 8 A. M., still heaving very much at flanks, and with a new complication in the form of violent spasms of the diaphragm. On taking the temperature I was surprised to find it 95.4° F. Thinking there might be a mistake, I took it again, with the same result. I ordered alcoholic stimulants, and gave a dose immediately. Horse taken home again.

Oct. 6th. Horse brought back at 9 A. M. He is bright and cheerful, showing no signs whatever of any ailment. Temperature, with same thermometer 100.2° F. Prescribed a course of liq. acidi arseniosi, and gave proper directions in regard to feed and water.

The animal returned to his usual work and is doing well. The only explanation I can offer for this remarkable subnormal temperature is the severe shock to the nervous system by the derangement of the digestive functions. Physical examination failed to discover any organic disease of heart or lungs. An extended experience with creolin in an aloetic bolus, both before and since, convinces me that it was no factor in reducing the temperature.

A SINGULAR CASE OF TUBERCULOSIS IN A COW.

By JOHN MINCHIN, V.S., Goshen, N. Y.

On August 4th, I was called to the farm of Mr. S., to look over his dairy of fifteen cows, some of which he said were not doing as well as they ought to under the circumstances. After looking over the herd, I made a physical examination, and, to my surprise, found no less than five suffering with tuberculosis. Their owner was somewhat surprised when told of my finding so many, for he did not think there might be more than two, which he had pointed out, saying that they were failing in both milk and flesh for quite some time. Three of the five were in fair condition, while the other two, and especially one, were visibly affected. I advised their immediate destruction (that afternoon), which he complied with.

Symptoms.—One of those two cows was in better condition than her companion; gave a good quantity of milk, and had no cough; but her eyes were quite watery, which resulted in pus. On the carcass being opened, the whole internal organs were literally covered with tumors (from the size of pinheads to that of a hand ball). The lungs were almost covered with them.

Now, we come to what we term the singular case. This cow although giving quite a quantity of milk, was very low in flesh, had a dejected appearance, and was troubled with a very bad cough, which on the least excitement troubled her. This cow was eight years old, and two years ago we became suspicious of her, and told her owner so at the time. When this body was opened and exposed to view, the internal organs appeared like the other cow's, only more diseased, on account of the size of tumors; but, on inspecting the lungs, to our great surprise and astonishment, not a single tumor or lesion could be found; but, on the contrary, a lung that the uninitiated would term sound. Do what we could, there was not a vestige of the disease apparent to the naked eye. The lungs were very dark, hypertrophied, but on the least pressure with fingers, would collapse. We have seen many cases of tuberculosis in our practice, but this case is the most singular of all.

As the government authorities have no funds for the payment of such cases in our state, the other animals have, we suppose, found their way to the city, where many like them are sure to go, where they are sold as food for anything obtainable.

ABDOMINAL ABSCESS.

By Wm. N. Colman, V.S., Sterling, Kan.

On the morning of June 6, 1896, I was called to see a bay mare used for driving purposes. The owner stated the case to me as follows: She had not been well for three or four days, showed signs of colic, had had colic three times in the past month, but had got over it all right, and was apparently well until three days ago, when he found her, I supposed with the colic; had considerable pain, which stopped in a few hours. He noticed a swelling on her right side. The mare's appetite had not been good for some time. He thought she was pregnant.

On arriving at the place I made an examination, and found the pulse and respiration accelerated, temperature 105° F., cutaneous surface quite warm, and extreme sensitiveness was observed by spinal pressure at the lumbar region; the visible mucous membranes were somewhat injected; urine and fæces of a febrile character, and I found her not be pregnant, as was supposed. A rectal examination revealed a large immovable object, which I diagnosed as a tumor, the nature of which I could not ascertain. The patient was very weak, taking but a very little nourishment for some time previous.

I prescribed stimulants to be given every hour during the day, and said I would be back the next day and operate on her. On my arrival the next morning I found her pulse soft and weak, respiration normal, temperature 98° F. The whole abdomen was augmented in size, the tumor doughy, and pitting on pressure. I explored it with a small trochar and canula and obtained a small amount of purulent pus, and then I made an incision at a point a little below the xyphoid cartilage, which relieved the patient of 8 quarts of very fœtid purulent pus. The cavity was then washed out, and cleansed antiseptically. I prescribed a stimulative draught to be given during the day.

On my arrival the next morning, I found the mare much better, had eaten a warm bran mash in the morning; the pulse still soft and weak, respiration normal, temperature 98$\frac{4}{5}$° F. I dressed the wound with

Peroxide of hydrogen
Aqua destillatæ *āā* ℥ iv

and left orders for them to dress the wound twice a day with the above.

The profuse œdema of the pectoral, abdominal and inguinal regions were readily resolved; the cavity continued to discharge for a short time, and the healing process was very rapid. On August 12, I saw the mare and she was sound and well and doing her usual work.

I believe it to be the largest abdominal abscess I have seen in my limited practice, and made the most complete recovery in that length of time.

STRICTURE OF URETHRA.

By J. B. Hollenbeck, V.S., Rock Valley, Iowa.

On May 15, a black gelding was brought to my infirmary suffering great pain and straining hard to urinate. Owner said the horse had not passed his urine properly for about ten days, it only coming away in drops. On examining per rectum I found the bladder so full that it filled the pelvic cavity. Being unable to pass the catheter any further than the arch, I concluded there must be a calculus obstructing the passage. Immediate relief being necessary, the animal was cast and the parts cleansed, and a four per cent. solution of cocaine injected over the end of the catheter which had been inserted. After cutting down onto the catheter I discovered a stricture of the urethra, which only permitted the passage of a very small probe. I then dilated the stricture with my finger, which took considerable force, when urine escaped very freely. The bladder was then washed out with warm water, and the wound dusted with boracic acid and iodoform, once daily for two weeks, when the wound was healed and the animal appeared all right. The owner took him home and turned him in pasture. In three days he came back, worse than before I operated. It being late, and not wishing to operate by lamp-light, I punctured the bladder with a trocar and canula through the rectum, which relieved him until next morning, when I chloroformed him and repeated the operation. After dilating the urethra I inserted a silver tube, holding it in place with silk sutures through the edges of the wound, leaving it there for ten days, and washing the parts with a solution of carbolic acid, and kept parts below well covered with vaseline to prevent urine irritating legs and sheath.

At the end of ten days the tube was removed and parts dressed daily with boracic acid and iodoform, the catheter being passed once daily. At the end of the next week the stricture was again closing, so it was difficult to pass the catheter, and the outside wound being completely healed, I secured a steel wire (No. 9) and had a blunt point soldered on it, the size of the urethra, and passed that once a day for five days, then every other day for a week. The horse urinating then normally, I sent him home. He has since been doing his work without any inconvenience. The horse being otherwise healthy I gave no internal treatment.

STRINGHALT IN RIGHT HIND LIMB.

By W. H. Curtiss, D.V.S. Marengo, Ill.

About May 1st I operated on a large black horse for stringhalt, by removing about half an inch of the peroneous tendon, operating close to its union with the extensor pedis. The horse was turned into a pasture for two months. When taken from the pasture was sound, and has been worked every day since with no return of the trouble. This was a case of two years' standing and very severe.

SALIVARY CALCULUS.

By W. H. CURTISS, D.V.S., Marengo, Ill.

August 22d, 1896, I removed a salivary calculus from Steno's duct of a horse. It was as hard as stone, and of the following dimensions: length, 2½ inches; circumference, 2 inches; weight, one ounce. I removed by operating through the mouth.

SOCIETY MEETINGS.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The thirty-third annual meeting of this association convened on Tuesday morning, September 1st, at 10.30 A.M., in the lecture-room of the University of Buffalo, Buffalo, N. Y., with the President, Dr. Hoskins, in the chair, who introduced Acting Mayor Boeckel, who made a very happy address to the members, extending a most hearty welcome to the city, touching intelligently upon the great work which the profession is accomplishing in the field of sanitary medicine, finally offering them the freedom of the city. Prof. Osgood, of Harvard, responded on behalf of the association, in one of his usual fine efforts, after which the Convention was formally thrown open for the transaction of the important work upon the long programme.

The President then read the following address:

Fellow-Members and Colleagues:

This thirty-third annual meeting which has drawn us together at this time from so many points of our much loved country, and which has added another year to our association's history, another link to the chain that marks off the era of growth of our profession at home, dates a peculiar period in the history of our avocation. For many years we have followed in all lines the footsteps of the older nations of Europe and with a keen eye watched their progress and scanned their results that we might employ them for the good of our own people; but to-day we note the changed aspect of affairs and discern the eye of the old world following the pathway we are cutting through the long neglected and ignored field of veterinary sanitary medicine and marking for ourselves a page in history that shall never be effaced and to which in the near future the humblest mortal on earth will gladly give homage. 'Tis under these auspicious conditions, my colleagues, that I welcome you to the deliberations of this convention, and toward whose work you have long looked forward with eagerness and pleasure. I bid you all the freest expression of your thoughts during the sessions of our convention, and I would ever remind you that this is your "Mecca," toward which your annual pilgrimages are made to lay down your offerings and tributes as tokens of the measure of your appreciation of the res onsibilities that your profession has laid upon your shoulders. It is meet to do good at all times, and while your chosen calling may never bring wealth, it brings to you one and all that which is better,—happiness, honor and power; and to do good to your fellow-man is the highest and noblest work one can engage in, and he who would bend his whole aim and purposes in our work of mercy and the relief of suffering, to the greed of gain, is unworthy of the name of veterinarian, and pity 'tis that he ever entered the ranks of the profession. The everyday sacrifices of our calling, I am thrice proud to say, are borne by the rank and file of our profession throughout the land in a manner worthy of the cause. I have found in the profession a long list of colleagues and friends whose devotion to their work; whose sincere friendship of much worth, and whose earnest lives, well lived, have thus added a deal of pleasure to my own, that I would not have missed in this busy, rushing world for aught that I know. I am not unmindful of the heavy burdens of the hour, or the toil and sacrifices that have been yours for many months. I am not oblivious of the trying ordeal you have and are passing through the length and breadth of our land, but the darkest night has its daybreak, and the sunshine of prosperity will pierce this period of adversity, and when, like the opening petals of the morning flowers, will come to you sweetened by the trials that have been yours to bear; and to cheer you with a fullness of joy greater than one can conceive of now. Already we note the changed sky, already we see the promised day breaking, when higher and better than ever before will rise the column of American veterinary science to enlighten not alone ourselves but the whole world. I have only pity for those who in this period of trial have taken false steps and so far forgotten their duty and the higher purposes of our calling, to bend their energies and strain their consciences in entering upon questionable methods of practice and resorting to the usages of charlatans and knaves in the preparation of nostrums and remedies of little value, to impose upon an ignorant and gullible public, and which brings unjust censure upon our profession and brands him who perpetrates the fraud as a knave. I am filled with regret and I sorrow for those who have so far forgotten themselves to take this first false step, for it leads only to danger and disaster, and to continue, means to them one and all the loss of every true aim of the profession, and in the end brings only a sad and disappointing career.

These hours of deep concern have brought forth better than we planned and hoped for. It has shown the way to broader fields of labor and opened full wide a domain of usefulness in sanitary work of unlimited scope and where may be rendered to all mankind the greatest benefits and command from him the highest meed of praise and admiration.

Our schools to-day are on the highest basis they have ever been, and the future promises that they will become bulwarks of strength and power to shed lustre upon your efforts for higher education, that must fill you with joy as you look upon these results as a part of the work you have so much contributed to.

In this direction permit me to quote from a recent annual report of one of our universities, in reference to its veterinary department. The conception of the aims and possibilities of a veterinary school is, I fear, very limited in our community. The aim of this school is not alone that of training men to minister to the ailments of the lower animals; while this is an essential and worthy object, the school has a higher purpose, that of demonstrating the relations in which such diseases stand to the welfare of the human family. Certain it is that this object is worthy the support and assistance of the State, the university and those private persons whose munificence and philanthropy are directed to the alleviation of suffering and the improvement of education. And I would add that the day is not far hence when this must be the aim and purpose of every veterinary school in our land.

Our positions of honor and trust, national, state and local, are all tending toward the merit system of election, and thus there will be given to them a higher character, a greater security, and this alone will bring to these places our best men and thus add to the general advancement.

Our associations are stronger than ever, and the work they are doing as missionaries of our cause has already been such as to win the approval and support of whole communities and commonwealths and thus add to the worth and need of our part of the world's work.

Our commissions and State boards of veterinary sanitary police have already done such good service as to attract the attention of the people of our own country, as well as that of the old world, a tribute of no little worth to add to our pleasure and joy. Tried and true men have in most instances found places on these commissions and boards, and the campaign of education has gone on in a manner that surely has brought joy to one and all, and which promises much for our future growth and development.

What shall I say in commendation of the grand work done in the Bay State? Planned on such a scale and with ends so well determined and fixed in advance of the times that their scopes and well-defined purposes startled us at the seeming boldness of the undertaking, and made one and all shake their heads in a dubious manner, because of the radical measures advised.

Once again we must feel to-day filled with joy and pride at the results obtained ; the information gained; the good done ; the health and happiness of a people conserved ; the moneyed interests of a class of our people preserved and protected, a class who have long borne the burdens of the day and whose load has yearly grown heavier to carry. And in this rejoicing we may vie with one another in our pride and pleasure that those who have so well planned and directed this work and who have sacrificed so much in its being carried out are our fellow members and colleagues, and they well merit that which we are proud to render them, our sincere appreciation, admiration and approval of the work so well done.

Our Bureau of Animal Industry and its correlative bodies, our State experiment stations have been steadily adding to our wealth of knowledge and advancement, wiping away the brushwood that obscured and covered up the truths hidden deep in nature's methods and plans for the perpetuation of species and kind, and through whose ravages and destructive forces these ofttimes microscopic bodies have inflicted upon our people the greatest losses and hardships, and brought disappointment and trial as the fruits of their toil. Better still will be the work of this national department in the future, for the establishment there of the merit system of appointment has already increased the efficiency of the service and it will become the aim and ambition of many of our best men who tend toward this kind of work, when they see that merit prevails and that tenure of office depends solely on good behavior and ability to perform well the services required. This service one now feels like commending to the consideration of all, for it affords great opportunity for development in many of our number, whose abilities and powers might otherwise never be fully brought forth. It will enhance this work in every way, and its richest fruits are yet to be gathered though the service already rendered by this department stands out more prominently as a true wealth conserver and safeguard to our people ; brighter and better than any other department of our government, when measured by the relative cost and in ratio to the immense moneyed interests, represented by our live stock interests, spread over every nook and corner of our great country. I cannot refrain from adding a word of praise at this time to the Chief of our Bureau of Animal Industry, whose long years of sincere service to the work of this department through every form of tribulation and trial under the most pernicious methods of filling office so long engrafted upon our country, that I can best express my approval of the whole of his work in this direction by saying that I know no one of our profession in this whole country who could have done so well.

Another thought I would have you keep in a fore place in these days of vaccines, antitoxins, specifics and agents sought for to dispose of every disease by a single measure or fixed plan of treatment, that the field of scientific medification and the proper use of drugs are yet for many years to fill your chief reliance for success and to measure your worth in every community. Calomel, aconite, belladonna, and cinchona bark ; aloes, epsom salts and linseed oil ; saltpetre, digitalis and sweet spirits of nitre, have not lost their potency for good, and each have their use and action, more valuable to-day than ever before ; for surely he who has lived in the profession the past ten years must have learned how better to use these and every other drug. How and when to use these efficient agents and the more potent and well prepared thousand and one others crowding upon us to-day demand our earnest attention and closer study, that we may reap a full harvest of good results in their use, and add something of value to the store house of veterinary therapeutics, that have for so many hundreds of years served well the aims and purposes of our predecessors in the days when serums and antitoxins were unknown.

Briefly have I alluded to a few aspects of our profession as they present themselves to-day, only to remind you that the scope of our work is still enlarging and will command from you greater devotion and deeper attention for the future.

These vitascopic views of our work must surely impress you of one great need, and to which I beg your indulgence for a few moments, and I would that I might say something to impress upon you its deep and vital importance to our future well being.

Higher veterinary education is the demand of the hour, and I have only words of praise for those schools so true to our interests that have added so much strength to this work during the past year. The opening college year for '96 brings the richest promises on all sides, and it is this great stride, this promised fruition of our hopes and wishes, that I desire to refer to for a moment in the light of our duty as followers of the profession, toward those who in these least auspicious times have courageously taken this step of advancement. They should command from us individually and collectively the most earnest support we can give them, and at all times our voice and pen should be ready and willing to aid them in this laudable work. In your community you each should take an active interest in any who may be considering the veterinary profession as his future calling, and see that so far as you may be able, he shall be so advised and influenced as to select one of the now many good schools, where he may obtain such an education as will help equip him for the work to be done. In every way that you can contribute to the thoroughness of the work in these schools you should do so directly and indirectly and make use of every opportunity to afford those who are to be your and my successors, men of well filled minds and of a breadth of knowledge that shall make them better able to fill the rôle of veterinarian than you and I have ever been. When you have done this you have only discharged your duty as a member of this association, and fulfilled the pledge of membership that added you to our number.

Another field of usefulness commands your support and aid, and it merits this to-day more strongly than ever before. It comes to you more worthy of your recognition and should be made better and stronger and kept thoroughly apace with every other avenue of our calling. No occupation or trade, no field of labor or work, but what must have its channels of communication, and through which every subject of importance may find a medium of discussion; a way by which every votary of our calling may be enlightened by our progress and kept steadily informed of all advances along the line. I refer to your journalism, and, freely admitting it is not what it should be; that it does not fill completely the rôle of power it should, still it is wholly within your own hands to give it that which it needs. It is yours for the expression of your views; it is yours for the recording of your cases; it is yours for the relation of your experiences; it is yours for every aspect and work of your adopted vocation, to make strong and sure your place among the enlightened nations of the earth, as a progressive branch of our world-wide profession, and as among those who are contributing toward that truest wealth of every nation or calling, its literature. With this hurried review of some phases of our work I bid you all the most thorough consideration of the broadest programme ever presented for your instruction and entertainment, which I am sure will add to the wealth of knowledge of every one present and when returning to his field of every-day work, add to own strength and confidence in a manner that only those can appreciate who have annually attended these gatherings, from which so much help is gained.

There could be no more laudable wish for any member of our profession than to be called to the chief place in this organization, and to thus represent his profession in such a nation as ours. For seven consecutive years I have been honored by this association in official place, four years as your secretary and three years as your president, and I cannot lay down the rôle of office without expression of my sincere appreciation of the honors you have conferred upon me. Equally so have I felt that no greater responsibility could fall upon one's shoulders. Not unmindful of how far short I have fallen in advancing your work through this organization, I shall carry to the end of my life the pleasant memory of this recognition of your esteem, and the most lasting recollections of the warm support and assistance I have always received from the members of this association.

The following list of members responded to the roll-call:

E. B. Ackerman, Brooklyn, N. Y.; W. L. Baker, Cortland, N. Y.; John A. Bell, Watertown, N. Y.; Roscoe R. Bell, Brooklyn, N. Y.; Geo. H. Berns, Brooklyn, N. Y.; Thomas F. Barron, Baltimore, Md.; C. A. Cary, Auburn, Ala.; Bent T. Cotton, Mt. Vernon, Ohio; A. W. Clement, Baltimore, Md.; W. H. Dalrymple, Baton Rouge, La.; D. J. Dixon, Hoboken, N. J.; Wm. Dougherty, Baltimore, Md.; Robert W. Ellis, New York City; H. D. Gill, New York City; E. A. A. Grange, Lansing, Mich.; Wm. H. Gribble, Washington, C. H., Ohio; John R.

Hart, Philadelphia, Pa. ; John Hawkins, Detroit, Mich. ; Nelson P. Hinkley, Buffalo, N. Y. ; W. J. Hinman, Winnipeg, Manitoba ; W. H. Hoskins, Philadelphia, Pa. ; L. H. Howard, Boston, Mass. ; Joseph Hughes, Chicago, Ill. ; Wilson Huff, Rome, N. Y. ; Wm. Jakeman, Halifax, N. S. ; Wm. Henry Kelly, Albany, N. Y. ; F. L. Kilborne, Kelloggsville, N. Y. ; M. E. Knowles, Butte, Mont. ; James Law, Ithaca, N. Y. ; J. Payne Lowe, Passaic, N. J. ; Charles P. Lyman, Boston, Mass. ; Richard P. Lyman, Hartford, Conn. ; H. M. Manley, Miamisburg, Ohio ; James McDonough, Montclair, N. J. ; Frank H. Miller, Burlington, Vt. ; F. H. Osgood, Boston, Mass. ; Leonard Pearson, Philadelphia, Pa. ; Wm. H. Pendry, Brooklyn, N. Y. ; A. T. Peters, Lincoln, Neb. ; Lemuel Pope, Jr., Portsmouth, N. H. ; W. C. Rayen, Nashville, Tenn. ; James B. Rayner, West Chester, Pa. ; Thomas B. Rayner, Chestnut Hill, Pa. ; M. H. Reynolds, St. Anthony Park, Minn. ; James L. Robertson, New York City ; James Robertson, Chicago, Ill. ; L. A. Robinson, Buffalo, N. Y. ; D. E. Salmon, Washington, D. C. ; E. H. Shepard, Cleveland, Ohio ; M. Stalker, Ames, Ia. ; S. Stewart, Kansas City, Kan. ; Harry Sutterby, Batavia, N. Y. ; S. J. Thompson, Winnipeg, Manitoba ; M. R. Trumbower, Sterling, Ill. ; H. J. S. Weicksel, Shamokin, Pa. ; John Wende, Buffalo, N. Y. ; H. S. Wende, Tonawanda, N. Y. ; W. E. Wight, Delaware, Ohio ; W. L. Williams, Ithaca, N. Y. ; C. J. Willganz, Buffalo, N. Y. ; J. F. Winchester, Lawrence, Mass. ; J. M. Wright, Chicago, Ill. ; F. A. Zucker, Elizabeth, N. J.

The following visitors were in attendance :

L. G. Moore, Trenton, N. J. ; J. A. McCrank, Plattsburgh, N. Y. ; C. J. Mulvey, Mooers, N. Y. ; S. Somerville, Buffalo, N. Y. ; D. McEachran, Montreal, Can. ; A. Smith, Toronto, Can. ; John S. V. Bowen, *Courier*, Buffalo, N. Y. ; C. R. Schultz, Ogdensburgh, N. Y. ; I. H. Taylor, Henrietta, N. Y. ; L. L. Bishop, Delavan, N. Y. ; R. Perkins, Hardy's, N. Y. ; R. E. Collins, Memphis, Tenn. ; H. D. Martin, Buffalo, N. Y. ; R. C. Bowman, East Aurora, N. Y. ; F. A. Crandall, Buffalo, N. Y. ; J. P. Thomson, Niagara Falls, N. Y. ; E. Rafter, Hamburg, N. Y. ; E. H. Humphrey, Remington, Ohio ; W. E. Stocking, Medina, N. Y. ; J. T. Liddle, West Shelby, N. Y. ; Arch. B. Campbell, Berlin, Ont., Can. ; J. W. Orr, Baden, Ont., Can. ; F. F. Hoffman, Brookville, Pa. ; Wm. Gibbs, St. Mary's, Can. ; Frank J. Thornburg, Buffalo, N. Y. ; James T. McAnulty, Philadelphia, Pa. ; Anderson Crowforth, Lockport, N. Y. N. ; Recktenwald, Pittsburgh, Pa. ; M. W. Drake, Philadelphia, Pa.

The Secretary then read the minutes of the session of 1895, at Des Moines, which were approved.

The following names were reported favorably upon by the Executive Committee and were enrolled as members: James Law, M.R.C.V.S., Cornell University, Ithaca, N. Y.; W. C. Rayen, D.V.S., Nashville, Tenn.; Chas. Higgins, D.V.S., Dover, Mass.; E. P. Shaffter, V.S., Kansas City, Mo.; H. Wellner, D.V.S., Providence, R. I.; F. H. Miller, V.S., Burlington, Vt.; F. W. Hopkins, D.V.S., Kansas City, Mo.; A. S. Wheeler, V.M.D., New Orleans, La.; W. H. Ridge, V.M.D., Trevoose, Pa.; W. H. Kelly, V.S., Albany, N. Y.; S. J. Thompson, V.S., Winnipeg, Manitoba; W. H. Hinman, V.S., Winnipeg, Manitoba; T. B. Cotton, V.S., Mount Vernon, Ohio; S. B. Staples, D.V.S., Baton Rouge, La.; E. H. Shepard, V.S., Cleveland, Ohio; F. A. Zucker, D.V.S., Elizabeth, N. J.; J. P. O'Leary, M.D.V., East Buffalo, N. Y.; W. H. Gribble, D.V.S., Washington C. H., Ohio; H. M. Manley, V.S., Miamisburg, Ohio; H. S. Wende, V.S., Tonawanda, N. Y.; W. E. Wight, V.S., Delaware, Ohio; E. L. Quitman, M.D.C., Chicago, Ill.

The report of the Committee on Army Legislation (Dr. J. P. Turner, chairman) was read by the Secretary, and it was very interesting, showing the difficulties with which it had met; how it had been recommended by the committee on army affairs of the House of Representatives, had met the approval of the highest army officials, had been disapproved by certain other army authorities, and finally approved by the legislative committee over their objections, an action seldom taken by that body. Speaking upon the report, Dr. John R. Hart, a member of the association's committee, stated that the bill was now in good shape to pass, and he would almost guarantee that it would become a law at the next session of Congress. He asked for a small appropriation from the association to defray necessary expenses, and remarked that the committee's work for next winter should not be hampered, even if he had to pay the bills out of his own pocket. The association deferred making the appropriation until after the Treasurer made his report. The committee has worked very hard, and is entitled to the thanks of the profession at large.

Chairman Williams, of the Committee on Publication, submitted his report, showing that the funds of the association had been in such a deplorable condition that the printing of the proceedings of the last two sessions in book form had been found to be impracticable, although it had been pledged to the members that when the dues were increased to $5 each member would receive such a copy. That those members who paid their dues, and were prevented from attending, were entitled to and should receive a *verbatim* report of the proceedings ; but, notwithstanding this, it was deemed inexpedient to precipitate a greater load of debt upon the association than it now carried. So that they deemed it better to leave the deliberations of those years unpublished and come before the meeting this year free from debt. The cause of the paucity of the treasury had been the backwardness of the members in paying arrearages, although the Secretary had been insistent in his efforts to make collections. This year the conditions were much improved, although economy in the matter of publication must be indulged in. So that bids were asked for, especially from the publishers of the veterinary journals, in the hope that the dual publication in the periodicals and the "Proceedings" would result in the cheapening of the cost of printing. In a discussion of the subject before the meeting the publishers of the journals showed a liberal spirit, and the matter was left in this shape until bids could be obtained from all of them, when the contract would be awarded. It came out in the discussion as the sense of the meeting that no circumstance should prevent the fulfilling by the association of its obligations to its members in supplying them with the "Proceedings," as those members who were unavoidably absent were clearly entitled to them from previous pledges of the association. Later on, the Secretary announced that the condition of the treasury had so improved during this meeting as to make it positive that the publication would be pushed to an early completion.

The matter set for discussion in the afternoon of the first day —"Master Horse-Shoers Association Relative to Veterinary Instruction in Schools of Farriery"—proved to be a very live question, and the debate upon it was of the most animated nature. The discussion was begun by the reading of a paper by Dr. H. D. Gill, who took a middle ground and treated the question from a scientific standpoint, after which Prof. Joseph Hughes, of Chicago, outlined the course of instruction that he deemed most suited to the encouragement of the shoers—confining it to the normal anatomy of the structures of the horse's foot. Dr. James Robinson, of Chicago, who has done considerable work among the horse-shoers association, followed in a well prepared paper, taking a lofty stand in favor of instructing blacksmiths in the normal and pathological conditions of the foot; teaching them pathological shoeing, and generally making them proficient in the treatment of diseases of the locomotory apparatus. Dr. McAnulty, of Philadelphia, reported the progress made in the Philadelphia schools and the methods in operation there, and endorsing the work. Dr. McKenzie followed in the same strain, asking the assistance of the association in behalf of the blacksmiths. Dr. Hawkins, of Detroit, narrated incidents where the instruction of the blacksmith in locomotory pathology transformed him into a dangerous "quack," and he expressed an emphatic disapproval of the proposition. Prof. Leonard Pearson, of Philadelphia, in a very neat little talk, told of the experiences upon this line in foreign countries, and doubted the policy of the association in endorsing the proposition beyond the point of normal conditions. Dr. James McDonough, of Montclair, N. J., a practical blacksmith and a veterinarian, thought the association would be nursing a viper by making half-educated foot experts, claimed that these attainments were being achieved at the expense of the practical work at the forge, and caused considerable amusement by his quaint way of driving nails in his argument. Dr. James Robinson replied in a rather heated manner to the strictures of Dr. McDonough, and said there never was a great movement for the betterment of mankind that did not meet with just such opposition as this proposition was encountering; but that it would go on and on, for the horse-shoers association was in earnest in its quest of knowledge. Dr. Dixon, of Hoboken, N. J., thought the avocation of the blacksmith was a "handicraft," and not an "art," nor a "science"; that the members of this association were incapable of instructing them in their "handicraft," the manual manipulation of their tools, the forging of a shoe, and therefore the association should be silent upon the subject. Altogether, there was a great variety of opinions expressed, the discussion was very animated, and the question was finally submitted to the Committee on Resolutions, which presented the following conservative expressions, and was adopted by the association:

Resolved, That this association approves the action of the Master Horse-Shoers' Association in reference to the instruction of its members and their subordinates on such subjects as tend to perfect the art of horse-shoeing and thus avoid the great and frequent losses that result from the imperfect shoeing of the horse's hoof, and this association pledges its support to all properly-directed measures designed to accomplish this object, and it is the sentiment of this association that horse-shoers should be instructed in such subjects as pertain to the normal form and function of the foot, and the mechanical processes necessary to preserve such conditions.

The report of the Committee on Intelligence and Education, submitted through its chairman, Dr. A. W. Clement, a very comprehensive analysis of the condition of education at the various colleges of the country, showing the number of veterinarians in the faculties, the course of instruction, and the length of the period of attendance. The result as a whole was most satisfactory to the association, and showed a healthy state of educational matters.

The resident State Secretaries responded more generally than ever before, showing a more thorough knowledge of the condition of sanitary medicine in their respective States than previously and most of the reports gave a general synopsis of the status of the profession in the several States.

The report of the Committee on Diseases was delayed until the afternoon of the last day, and was very far from being an ideal collection of statistics and interesting data. The reading of the report from Alabama, dealing with insignificant data, was provocative of much merriment.

The discussion of the subject of tuberculosis in its various aspects was possibly the most interesting, instructive, and scientific debate that has ever engaged the National Association, and certainly the most comprehensive of this meeting. The discussion embraced the subject in the following aspects: "Systematic Examination by the State," "After Effect of Tuberculin on Healthy Cattle," "Danish System of Controlling Tuberculosis," "French System of Controlling Tuberculosis," "Virulence of Milk from Tuberculous Cows," "Virulence of Flesh from Tuberculous Cattle," "What Should be done with Tuberculous Cattle," "If the Flesh of the Slightly Affected may be Used, Where Draw the Line." Prof. Osgood led the discussion, basing his argument as to the systematic examination of cattle by the State largely upon the methods and experiences of the Massachusetts Cattle Commission, of which he is a member, and his exposition of the practices there employed was very interesting. Dr. D. E. Salmon, of the Bureau of Animal Industry, spoke upon the same aspect of the subject, and dwelt upon the difficulty of the government in being able to cope with such a widespread and insidious disease at the present time. Prof. Leonard Pearson made a most lucid description of the Danish and French systems of controlling the disease, and showed how their methods, while suiting those countries admirably, were untenable in the United States. He also dwelt upon the disease as it exists in his State (Pennsylvania), and showed how the great number of cows—

over one million—precluded the opportunity of testing systematically by tuberculin, with slaughter and compensation by the State. Prof. C. P. Lyman, of Harvard, had much to say upon the after effects of tuberculin, doubting if the slight fever following for a few days was caused by the injection, but rather by the changed methods of feeding, by the excitement incident upon handling of the cows by strangers, and such circumstances. Dr. M. R. Trumbower, State Veterinarian of Illinois, gave his methods of drawing the line between what meats of carcasses should be used for consumption and what should be condemned, and it was based more upon the reasoning of common sense than upon any scientific tables. Dr. Clement, State Veterinarian of Maryland, rather doubted the virulence of the meat and milk of tuberculous animals, and thought that experiments upon a large scale should be indulged in to show the exact effects of these products upon small animals, with a view of showing comparative results upon the members of the human family. That if the danger was exaggerated the public should know it. Dr. Pearson replying greatly regretted the position taken by Dr. C., stating that the facts as accepted by the convention were those acquiesced in by every scientific man of the age, and contended that experiments without number had been held proving those points, and that circumstantial evidence was not lacking to show the virulence of these products upon the human subject. Prof. Stalker, of the Iowa Agricultural College, an eloquent speaker, deprecated the remarks of the gentleman from Maryland, and said that the objectors to laws looking to the control of such diseases would always seize upon such remarks in pressing their opposition. He said it was like entering an edifice to "pray to the Lord, if there is one, to save your soul, if you have one." Further discussion was indulged in by Prof. E. A. A. Grange, of the Michigan Agricultural College, W. J. Hinman, Meat and Milk Inspector of Winnipeg, Manitoba; S. J. Thompson, Provincial Veterinarian of Manitoba, and others.

The debate was so exhaustive that we shall print it in a *verbatim* form as soon as the stenographer's report has been edited by the Publication Committee and transmitted to us.

Apropos of the discussion, the following preamble and resolutions were presented by the Committee on Resolutions and unanimously adopted by the association :

Whereas, tuberculosis of some of our domestic animals, and especially of cattle, is a widespread and destructive disease, and

Whereas, statistics accumulated during the past year show that the disease is very prevalent throughout this country, especially in dairy herds, and indicate that it is steadily increasing, except in states where active measures for its suppression have been enforced, and

Whereas, There exists in some quarters a difference of opinion as to the relation of tuberculosis among cattle to the public health, notwithstanding the fact that this matter has been the object of careful scientific inquiry by a great number of eminent scientists in all parts of the world, and that reliable and uniform results and observations are recorded in great numbers in the veterinary and medical literature, be it

Resolved, That it is the opinion of the United States Veterinary Medical Associaiion that the following points have been demonstrated beyond dispute and may be accepted as fully established :

1. That tuberculosis of man and cattle is identical.
2. That the milk from cows with tuberculous udders may cause tuberculosis in animals fed upon it.
3. That the milk from cows with extensive tuberculosis but apparently healthy udders may in some cases contain the germs of tuberculosis and cause the disease in animals fed upon it.
4. That in some cases the germs of tuberculosis appear in the milk of tuberculous cows that are not far advanced in the disease and that have udders that are healthy, so far as can be determined by an examination made during the life of the animal.
5. Slightly tuberculous cows sometimes succumb to a sudden exacerbation of tuberculosis and furnish virulent milk for a period before it is possible to discover their condition by means of a physical examination.
6. Tuberculin furnishes incomparably the best means of recognizing tuberculosis in the living animal.
7. Tuberculin, properly used for diagnostic purposes, is entirely harmless to healthy cattle, and is so exceedingly accurate in its effects that the few errors resulting from its use cannot affect the general results and are of less frequent occurrence than follow the use of any other method of diagnosing internal diseases.
8. That the carcasses of tuberculous animals may be and sometimes are dangerous to the consumer, and all such carcasses should be subjected to rigid inspection by a competent veterinarian and those that are condemned should be disposed of in such a manner that it will be impossible to put them on the market for consumption as human food.
9. That the importance of dairy inspection cannot be overestimated, and municipal and health authorities should at once perfect a system commensurate with the vast importance of the subject.

Resolved, That the live stock and especially the breeding interests of this country can never regain their former prosperity until such measures have been carried out by the national and state governments as will afford some reasonable guarantee against the continued ravages of this disease. And in view of the prevalence of bovine tuberculosis in foreign countries and the measures taken by some of them to protect their cattle from further infection the United States should prohibit the importation of breeding animals until they have been proven by the tuberculin test to be free from this disease.

The election of officers for the ensuing year was next taken up, and resulted as follows:

President—Frederick H. Osgood, M. R. C. V. S., of Boston, Mass.

Vice President—Eastern Division, Roscoe R. Bell, D.V.S., of Brooklyn, N. Y. ; Middle Division, M. R. Trumbower, D.V.S., Sterling, Ill. ; Western Division, M. Stalker, V.S., Ames, Iowa.

Secretary— Sesco Stewart, 7½ South James St., Kansas City, Kansas.

Treasurer—James L. Robertson, M. D., D.V.S., New York City.

Ex-President Hoskins presented a new gavel to the incoming President, the gift of the Buffalonians, remarking that it was the first the association had ever owned, and in accepting it the recipient returned thanks for the great honor which the members had conferred upon him, saying that that office was the highest from a professional standpoint that could be conferred upon a veterinarian in this country. Incidentally he paid a very high tribute to the great work which had been wrought by the retiring President, affirming that the present flourishing condition of this great and influential body was in a large measure due to his wonderful energy and enthusiastic exertions in its behalf. He had taken hold of the helm when it was little else than a local eastern organization, with but little influence in a national sense, and when he now relinquishes active office it is a powerful organized body of earnest men working in unison with zeal and determination for grand ends and whose influence is masterly whenever its weight is exerted. He said he would feel perfectly satisfied to continue the work for the next year as it had been done for the past, but he would strive to make it even better. The vice-presidents were then introduced, and each had a few words to say in acknowledgment of the honor bestowed upon them. The re-election of Dr. Stewart as secretary was everywhere commended, as he had made a most indefatigable worker, and in response to calls for a speech he remarked that the members would all hear from him during the year, and trusted they would respond for the best interests of the association. When the new treasurer, Dr. Robertson, was re-elected for the 'steenth consecutive term many were the calls for a speech, but he had hied himself away, and could not be found.

The association then adjourned to enjoy a delightful excursion, arranged by the local committee, and they again met at the dock, where they, in company with their wives, sweethearts and friends, embarked on the steamer "Idle Hour" for Niagara Falls, where they boarded the wonderful Gorge Electric Railroad, which passes down on the banks of the Niagara River, past the Whirlpool Rapids, and, continuing in a perfect panorama of the most weird and bewildering scenery, finally reaches the village of Lewiston, where the guests alight and view the many points of interest, after which they re-embark on the electric cars and are carried over the same route back to the Falls, where tickets have been distributed to convey the guests by elevator to the summit of the wonderful tower, which presents the grandest view of that grand country that it is possible to obtain. When the sight-seeing is over cars are again boarded for the boat which brought them hither, and when sail is set all sit down to a most generous repast of all that makes life worth living, and the good things are so heartily partaken of that the excursion is continued on down into Lake Erie, where the time slips by most pleasantly to the strains of sweet music and dancing. At 10 P. M. the boat anchors at her dock, and the light-hearted guests seek their abiding places, with a high appreciation of the bountiful hospitality of the occasion's hosts.

The convention reassembled at 10 A. M. on the morning of the 3d, and, after the report of the recommendations of the Executive Committee, which were acted upon according to their findings, the reading and discussion of papers was taken up.

Dr. J. F. Winchester, of Lawrence, Mass., presented his paper upon Diphtheria in Cattle,* which was in the nature of a report of an outbreak which occurred in his practice. The essayist went very deeply into the symptoms presented during life, autopsies upon the dead, and microscopical examinations of the pathology in the cases, having the assistance of trained men in those departments. The discussion following was indulged in by Drs. Gill, Salmon, Lyman, Grange, Knowles and others, and altogether much light was thrown upon a disease whose recognition has been shrouded in doubt and where little original research has been indulged in.

Dr. W. H. Dalrymple, of New Orleans, La., then read a most interesting paper entitled " Some Southern Experiences," dating his story from the time of his entry, previous to which such a thing as an educated veterinarian had never been seen, and the people looked upon him as a curiosity, but as he became acquainted with them, and demonstrated his superiority to the humbugs that had previously infested the country he gained their confidence, and now they employ his services and rely upon his judgment. The report, after giving further interesting details of the profession in that section, and intimating that there is a great field for the veterinarian yet to be developed, he described an extensive outbreak of charbon, which depopulated great herds of cattle, mules, and sheep; how they had exhausted the supply of anthrax vaccine in this country and sent to Europe for more; how the injection of this agent checked the disease and saved many lives. The paper brought forth an animated discussion, and will be published in the REVIEW in its complete form (the paper with the discussion appended) as soon as it is possible to obtain it from the Publication Committee.

---

*Printed elsewhere in this issue.

Dr. Salmon then read his paper, "Tuberculosis in Birds," which dealt largely with a comparison of that disease in gallinacea and in mammalia, with the deduction that there is much resemblance between the two classes of disease, and that it is not readily transmitted from one to the other. It is probably the most exhaustive treatise on this subject in the English language, and brought out a generous discussion, indulged in by Drs. Peters, Lyman, Knowles, Winchester, and the essayist.

Dr. Peters, of the Experiment Station at Lincoln, Neb., read a very interesting report of his researches with "Serum-Therapy in Hog Cholera," detailing actual experiences with the disease as it came to him in the line of his duties. The paper was highly appreciated by those present who were interested in the subject, and was discussed by Drs. Salmon, Gill, Stalker, Grange, Thompson, and others.

Then Dr. M. H. Reynolds, of Minnesota, brought forth a very voluminous paper upon the subject of "Cathartics," especially dealing with the alkaloids used for quick action, comparing the various actions obtained by different combinations of eserine, pilocarpine, strychnine, and belladonna, given by every known method of introduction into the system, comparing their effects upon horses in health and in morbid states of the system. Also detailing the results of his experiments with the later agent, barium chloride. His experiments were most exhaustive, and his conclusions rather tended to show variable actions in different individuals under apparently the same circumstances, and he was not certain but that as a general rule the old reliable aloes and linseed oil could be more thoroughly relied upon. Interspersed with accurate and interesting tables, Dr. Reynolds' contribution to therapeutics is invaluable to the advanced student and practitioner. If we may be allowed, however, to criticise the paper, we would suggest that it is more suited as a contribution to the literature of our periodicals or text-books than as a thesis before an association meeting, as the details are so diversified that the mind cannot follow the argument, and much of its value is lost to the listener. The question with which it deals has been so much discussed and with so many conclusions that the profession is much indebted to the essayist for his most extensive and complete investigations. As soon as the REVIEW can obtain the copy from the Committee on Publication it will appear in these columns. The reading of Dr. Reynolds paper was not completed, owing to lack of time, and its discussion was postponed until the next meeting.

Prof. W. L. Williams, who has so recently taken the vacant chair at Cornell University, was as interesting as usual in a paper entitled "Physiological Variations," and he treated the subject in that masterly manner of which he is so capable. The discussion of his paper was, for lack of time, also postponed.

Frank H. Miller, fresh from the clinics of Berlin, read a very fascinating paper on "Diabetes Mellitis in Dogs," and his conclusions were backed up by numberless cases from the hospitals, from entrance until post-mortem and miscropical examination. He demonstrated that the disease is much more common in the canine than is usually supposed, and we fear that many of us fail to recognize the disease in these cases because our examinations are not minute enough; that the urine should be tested for the presence of sugar in those cases that give evidence of urinary derangement. His paper was much enjoyed, but, unfortunately, it shared the same fate as the preceding ones—discussion postponed.

Dr. S. B. Nelson's paper, "Nail Wounds of the Foot," was sent to the Secretary, together with a contrivance for securing the dressing in place, but its reading was dispensed with, and it was ordered published in the "Proceedings." So was Dr. N. S. Mayo's on "Some Poisonous Stock Foods," he having transmitted some of the foods described. And so was Dr. James A. Waugh's article, "Toeclip Injuries."

The Committee on Resolutions introduced the following, which were unanimously adopted:

Resolved, That the United States Veterinary Medical Association, assembled in annual convention at Buffalo, N. Y., September 3, 1896, hereby respectfully and most earnestly protest against the passage, by the Congress of the United States, of Senate Bill No. 1552, improperly entitled a bill for the further prevention of cruelty to animals in the District of Columbia, or of any other bill designed, like the said bill, to place restrictions upon scientific experiments upon living animals.

Resolved, That the said association believes such legislation to be injurious to the progress of the biological sciences, and that where operative it will prevent the acquirement of medical knowledge essential for the prevention and cure of the diseases of animals and men, and desires to add its protest to the protests already made by the American Medical Association, the National Academy of Sciences, the Association of American Medical Colleges, the Association of American Physicians, the American Academy of Medicine, the Medical Society of the District of Columbia, the American Association for the Advancement of Science, the American Microscopical Society, and other medical and scientific societies of the United States.

Resolved, That the Secretary be directed to transmit a copy of these resolutions to the President of the Senate and the Speaker of the House of Representatives.

Resolved, That the United States Veterinary Medical Association appreciates the opportunity so courteously presented by the Pasteur Monument Committee of France to the American people of assisting in the erection of a suitable monument at Paris to the memory to the great investigator, and that the President is hereby authorized to appoint a committee to raise a fund which shall be presented in the name of the association.

WHEREAS, The 33d annual meeting of the United States Veterinary Medical Association in Buffalo has been so enjoyable and profitable as to mark the beginning of a new era in the history of our organization, and

WHEREAS, This gratifying state of affairs has resulted largely from the efforts of the energetic and hospitable local committees, be it

Resolved, That this Association tender to the local committee and those who have assisted them a vote of thanks to indicate its sincere appreciation of the reception it has been accorded in Buffalo and recommends that the President appoint a committee to draw up suitable resolutions expressive of our appreciation, and that the same be engrossed in permanent form and presented to the Chairman of the Local Committee of Arrangements and that a copy of the same be spread upon the minutes of this meeting.

WHEREAS, His Honor, acting Mayor Boeckel, with all the numerous demands which have been made upon his time has honored us by opening our convention and extending a cordial welcome and the freedom of the city, be it

Resolved, That we, the members of the United States Veterinary Medical Association, recognizing these facts and with a full appreciation of the same extend to him a hearty vote of thanks.

Adjournment took place very late in the afternoon, leaving just sufficient time for the members to dress for the banquet, which took place at the Genesee House, the guests assembling promptly at 8 o'clock, and about sixty sat down to a very tastefully arranged table, loaded with flowers and plants. When the cigars were passed around, the toastmaster, the versatile Dr. Hoskins, began his famous introductions, and so bright were his outbursts that at one time there was a serious intention of resolving the banquet into a committee of the whole and just devote the evening to listening to his witty and delightful personalities.

The first speaker was Senator Mahany, of Buffalo, who responded to the topic of his city, and he did so to the delight of all; his address, though extemporaneous, was a scholarly discourse upon the horse in history.

Dr. Miller, chemist of the State agricultural department for the section which includes Buffalo, was happy in his reply to a toast to his collateral department.

Prof. McEachran was reminiscent in his remarks, going back to the time when he and Principal Smith were classmates in the Veterinary College of Edinborough; they had always been lifelong friends, and he was sorry that the Toronto professor could not go on with the profession in its advance to a longer period of attendance, and hoped that he would so decide in a very short time.

Prof. Smith then arose and paid his respects to the McGillian, and claimed that his school was doing and always had done good work, as his successful alumni all over this and other countries would demonstrate. His excitement was only temporary, however, and the two patriarchs of veterinary medicine were soon touching glasses across the table.

They were followed by Dr. Tremaine, of Buffalo, who spoke to "Our Sister Profession," and incidentally paid high praise to this profession.

Afterward Profs. Law, Hughes, and Bell made brief addresses in response to flattering introductions by the toastmaster, the last named speaking for the profession of "veterinary journalism," and he contended that the veterinary magazines of the country were not meeting with the pecuniary support that their merits warranted, as they were, without doubt, very creditable; that they were doing more to advance and protect the profession than any other factor now in existence, and he hoped those who listened to him would endeavor to assist in the spread of its material popularity.

When the guests dispersed at 12 o'clock, the thirty-third annual meeting was over, and it was the opinion of all whom the writer interrogated that it was the most largely attended, interesting, and profitable that has ever assembled in America.

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

The seventh annual meeting of the New York State Veterinary Medical Society commenced at 11 o'clock A. M. at the Genesee House, Buffalo, N. Y., Sept. 4, 1896.

On roll-call there were 16 members present, but within half an hour the parlors were well filled, about 35 members present, and 15 to 20 visiting veterinarians from various parts of the United States dropped in to see and hear the proceedings. Among them were some of the lights in the profession. The President opened the meeting with the annual address, which was listened to with unusual interest and well received. The Secretary's report was then read, which dealt entirely with the finances and business management of the Society. On motion the report was accepted as offered and ordered spread on the minutes.

The applications of twelve candidates were offered, and referred to the Board of Censors.

A question was offered for discussion relative to present and future applicants when elected to the Society receiving their certificate of membership with the understanding that they should hold possession of the same during their continuing as members in good standing, and whenever that relation should cease that their certificate of membership be returned to the Society. Drs. Geo. Berns, W. L. Baker, N. P. Hinkley, W. H. Kelly, John Wende, H. S. Wende, Wilson Huff, Thompson, and W. L. Williams, of the State Veterinary College at Cornell University, entered heartily into the discussion.

Dr. M. R. Trumbower of Sterling, Ill., made a few remarks and invited the Society to attend their state meeting of veterinarians in November next, bringing with them any matter of interest to the profession at large. A vote of thanks was given Dr. Trumbower.

Dr. Osgood, of Massachusetts, made a few remarks on the status of the profession, which were well received.

Dr. Hoskins, of Philadelphia, spoke in his usual pleasing manner for a few minutes on the character of the profession in New York State.

Meeting adjourned for lunch.

Afternoon session convened at 1.30. President called Dr. J. P. Thompson to the chair. Report of the committee on arrangements submitted, which included the arrangements for the United States Association, as well as the State Society. The members were well pleased with what had been provided for their comfort and enjoyment and wished to thank the committee for their efforts.

Committee on Legislation reported the following:

Mr. President, Officers and Members of the New York State Veterinary Medical Association:

As chairman of the Committee on Legislation, I respectfully submit the following report:

The past session of the Legislature has been a very interesting one for the veterinarians of this state. Not so much on account of there being any such important bill passed as there was in the year of 1895, but that we have been able to hold this law in full force; and it has only been amended in behalf of the veterinarians who did not register according to law, through some misunderstanding or oversight. There have been several attempts to set the law of 1895 aside, temporarily, in behalf of the non-graduate; but we are pleased that the efforts have been unsuccessful.

During the session there were six bills introduced into the Legislature, in which the veterinarians were interested. The first, Assembly Bill No. 249, was introduced Jan. 16th by Hon. C. C. Cole, entitled, "An Act to amend the Public Health Law, relating to the Practice of Veterinary Medicine."

Second, Senate Bill No. 227, was introduced Jan. 21st by Hon. T. Sullivan, entitled, "An Act to amend sections number one thousand eighty-one and eleven hundred twenty-seven of the Code of Civil Procedure."

Third, Assembly Bill No. 346, introduced Jan. 22d, the same as Senate Bill No. 227.

Fourth, Senate Bill No. 351, introduced Jan. 30th, by the Hon. J. F. Ahearn, the same as Senate Bill No. 227 and Assembly Bill No. 346.

Fifth, Assembly Bill No. 995, introduced Feb. 19th, by Hon. Jas. S. Harrison, entitled, "An Act to enable James Wixon of Steuben County to practice veterinary medicine and surgery as a profession."

Sixth, Assembly Bill No. 2123, introduced April 1st, by Hon. Uriah S. Messiter, entitled, "An Act to enable persons to register as practitioners of veterinary medicine and surgery in the State of New York," May 11th, 1896; and who were qualified to register under said Act and failed so to do.

Seventh, Assembly Bill No. 2700, introduced April 21st, by Hon. M. V. Ives, entitled, "An Act to amend Chapter No. 813 of the Laws of 1896, entitled, "An Act to regulate the practice of veterinary medicine and surgery in the State of New York.'"

The first, Assembly Bill No. 249, as originally introduced, would let any person register that was a graduate of a reputable college or institution that claimed to be, as there were no restrictions. The committee seriously objected to this, on that ground, and wrote several letters of protest, and appeared in person before the Public Health Committee, stating their objections. After considerable debate the Committee finally decided to report it favorably, as amended in Assembly Bill No. 1183. This met with the unanimous endorsement of the Committee, and finally, after the Governor's signature had been affixed, became a law, May 22, 1896.

Senate Bill No. 227 was killed in the Committee as we were unable to get it reported. If it had become a law it would exempt the veterinarians of Kings and Queen Counties from jury duty, which was an oversight in the passage of a similar bill last winter.

Assembly Bill No. 346 was the same bill as Senate Bill No. 227. While it passed the Assembly it did not pass the Senate.

Senate Bill No. 351 was the same as No. 227 and met the same fate.

Assembly Bill No. 995 was introduced entirely in behalf of a quack, named James Wixon, of Steuben County. While it was being acted upon in the Assembly the Committee was not aware of it. Attention was called to it by Dr. A. O'Shea. Upon investigation it was found that the bill had passed the Assembly and reached the Senate and was in the hands of the Committee. Immediately, several members throughout the State were notified, and Doctors Morris and O'Shea, on the receipt of theirs, each had some two hundred circular letters printed, stating the nefarious condition of the bill, and also wrote the Chairman of the Committee.

Assembly Bill No. 2123, was entirely in behalf of the non-graduate, and was another one of their attempts to set aside the law.

Assembly Bill No. 2709 was also another struggle of the dying quacks, which was also killed.

A vote of thanks was given to the committee for their effective and excellent work.

The reports of the County Secretaries were called up in their regular order by county. Reports of several committees were made, all of which tended to show the status of the profession in that county, and also the nature of the work as it came in contact with several boards of health. The discussions were exceedingly interesting, the character of the work being such that justifies the employment of veterinary surgeons on all boards of health throughout the State; as the reports all showed that a great work was being done in protecting innocent consumers of flesh and dairy products against unwholesome and infectious food products. When Kings County was called up the report submitted by Dr. Geo. H. Berns brought out a very interesting and instructive discussion on glanders.

The report is as follows:

In presenting my report as County Secretary for the County of Kings, I am especially indebted to Dr. E. B. Ackerman, Veterinary Inspector of Brooklyn Department of Health; Dr. Wm. H. Pendry, Dairy Inspector Brooklyn Dept. of Health; Dr. E. L. Volgenau, U. S. Inspector under Bureau of Animal Industry, stationed at Brooklyn; and

Supt. Frank O. Clarke, of the American Society for the Prevention of Cruelty to Animals, for having kindly furnished data from their various departments.

According to the police census taken some five or six months ago, there are 31,850 horses, and about 3,000 milch cows in the county. The general health of this number of animals has been exceptionally good during the last year, and were it not for a rather violent outbreak of glanders in the early part of the season, and the extremely hot spell in the middle of August, I am satisfied that the mortality would have been much lower than the average.

Influenza existed to some extent early in the spring and presented itself in rather a violent form; but was chiefly confined to sale stables and green stock in general.

Infectious pneumonia broke out in the Government stables at Fort Hamilton in the early spring, and out of about sixty horses, eighteen were taken with the disease, fifteen of which made good recoveries in two or three weeks' time; and three while convalescing from pneumonia developed rheumatism, two of which recovered fully within a week or two and one remained badly crippled.

Osteo-porosis continues to crop up in all classes of horses, but chiefly in comparatively young animals kept in old and badly ventilated stables, generally situated on the ground floor, and without any drainage; about fifteen well-marked cases came under my observation, some of which were destroyed and others were disposed of by their owners upon my advice; two cases so disposed of are reported as convalescing in other locations and stables.

Purpura hæmorrhagica, pleuro-pneumonia, azoturia, cerebro-spinal meningitis and colics carried off the usual number.

Metastatic laminitis following acute indigestion, pneumonia or influenza, was unusually common this spring and left quite a number of my patients in such a condition as to render destruction of life advisable.

The extreme heat of last month caused very heavy losses in Brooklyn; and dead horses were found on every street owing to inability of the contractor to remove them fast enough.

Dr. Ackerman states that of two hundred and fifty-eight cases reported to the Department of Health as glandered, farcied or suspicious, one hundred and fifty-two were found to be so affected and accordingly condemned and destroyed. In my own practice probably thirty cases came under my observation; the mallein test was employed in all cases where the symptoms were not sufficiently developed to warrant positive conclusions, and in two stables where glanders had existed for a long time and broke out periodically all animals were tested; those showing a reaction of two degrees or over, and the typical swelling at point of inoculation, were destroyed, and in probably twelve cases where no external symptoms of any description could be detected, post-mortem examinations were made and lesions indicative of glanders were found in every case; yet seven horses which had been among a lot of glandered animals for months, and reacted on the mallein test from three to five degrees, but were otherwise apparently in good health and showed positively not the slightest indication of glanders that could be detected on physical examination, were allowed to live and have been carefully watched since last March or April, when the mallein injections were made. At this writing, which is six months after the test, five of these animals appear to be still in good health and are doing their ordinary work; one was destroyed as glandered some three months ago, and one has been quarantined as a suspicious subject for the last two months. Is it possible that the germs of glanders are lying dormant all these months in those five horses that are at work? Or did the mallein injection have a curative effect? Or is mallein not altogether reliable as a means of diagnosis?

Dr. Wm. H. Pendry, in his official report to the Department of Health, states that less than 3 per cent. of the 3,000 milch cows in Kings County are affected with tuberculosis, as far as can be detected by physical examination, but qualifies this by saying that most of the cows are of the common hardy variety, frequently changed and retained by their owners only as long as they milk well, and failing in that are fattened for slaughter. He speaks of tuberculin as a most reliable diagnostic agent for tuberculosis, and advocates in the strongest terms that this test be applied to all dairy herds.

Dr. E. L. Volgenau, United States Inspector under Bureau of Animal Industry, examines all cattle killed at the Hudson Avenue Abattoirs. He reports that of 2,720 head of fat cows and steers examined by him, 12 were affected with generalized tuberculosis, in advanced stages and a very much larger number with localized tubercular lesions. He concludes that fully one per cent. of all the cattle killed in these abattoirs since December 1st, 1895, were tuberculous. He found this disease mostly in fattened cows from local dairies; while actinomycosis was frequently met with in western steers.

I am pleased to be able to state that the veterinary profession in Kings County is rapidly gaining recognition, confidence and support from owners of live stock, the public at large and our city government.

Seventeen years ago, when there were a very much larger number of dairy cattle in the county and perhaps fully as many horses as there are now (owing to the introduction of the trolley system), not more than four or five regular graduated veterinarians, a few self-educated practitioners, and a dozen or two of ignorant, loud-mouthed *empirics* found employment in our county, where to-day there are 81 regular graduates in veterinary medicine registered in the county clerk's office, and I believe I am safe in saying that at least 95 per cent. are not only gaining a comfortable livelihood by their practice of the profession, but are looked upon and treated by the community in which they move as scientific and skillful men and respected citizens. Of the 34 non-graduates who have registered by affidavit only a very small number are engaged in actual practice, some few of whom are elderly men who educated themselves when there were no veterinary colleges in this country, and by years of study and experience have gained sufficient knowledge and skill to become successful practitioners and control to this day a respectable clientage; the rest are made up of overbearing stable foremen, conceited horseshoers, unscrupulous horse cappers, travelling so-called veterinary dentists and patent medicine vendors, etc., who took advantage of the laws of 1886, and registered upon their affidavits that they had practiced for three years; but very few of this latter class remain in practice in Kings County. They were gradually forced from our ranks by a want of support, many have taken down their shingles and left for parts unknown, while others follow other occupations.

The city government employs 6 veterinarians in professional and official capacities, four of whom are connected with the Department of Health as veterinary inspectors, one as veterinarian to the Police Department and one as veterinarian to the Fire Department.

In conclusion, I cannot refrain from referring to the excellent work done by the A. S. for the P. of C. to A., in this city. It maintains a well-equipped office, consisting of an inspector, 4 patrolmen, one large ambulance for the removal of horses, and two small and exceedingly well appointed ambulances for the removal of homeless or to the owner objectionable cats and dogs.

A summary of the work in this city for 1895 shows:

Cases prosecuted in the courts	952
Disabled animals temporarily suspended from labor	3,403
Horses and mules disabled and past recovery humanely destroyed	2,987
Homeless or disabled small animals humanely destroyed	46,898
Disabled horses removed from streets to veterinary infirmaries or owners' stables.	576
Complaints received and investigated	21,690

These figures show that the officers have not been idle, and that a vast amount of suffering among animals has been prevented by them. GEO. H. BERNS,

Secty. for Kings County.

Professor Law, of Cornell University, thinks slight cases of glanders are not only amenable to treatment, but curable, even in our latitude and atmosphere, and on the western plains at high altitudes altogether so.

Dr. W. L. Williams, of Cornell, spoke of the prevalence of glanders in Russia and other parts of Europe, and finally of the disease on the ranges in Montana, where glanders exists to some extent, and is not only a curable disease, but that mallein treatment to a large degree produces such results, and that upon the plains the disease is not looked upon with that degree of horror as in the east.

Professor Law, speaking a second time, cited a case of glanders in New York City, which was treated, making a complete recovery, a similar case at Ithaca, and numerous cases in Wyoming.

Dr. Joseph Hughes, of Chicago, contends that glanders should not be treated, but all animals affected destroyed.

Dr. John Wende, of Buffalo, cites a case in which he saw three colts which had glanders ; all made a complete recovery.

Dr. W. H. Pendry, of Brooklyn, believes veterinarians should not advocate the treatment of glanders.

Dr. Wilson Huff, of Rome, asked to hear from Dr. Peters, of Nebraska, who believes glanders is curable on the plains, but that treatment should not be attempted in cities, as the disease is best treated in open air on pasture.

Dr. John A. Bell, of Jefferson County, read a very interesting report of his county, showing that Watertown has a live Board of Health, and the members of the Society felt that the local Board of Health should be complimented for having as its sanitary officer so efficient a member as Dr. Bell.

The discussion was taken part in by Drs. Berns, R. R. Bell, Crowforth, Corvie, W. L. Williams and Huff.

The report of New York County by Dr. Arthur O'Shea is as follows :

As County Secretary, I beg leave to submit the following report from New York County :

Veterinary education has taken a decided step in our colleges in this city by an increase in the state requirements, it now being necessary for a student to pass the State Board of Regents veterinary preliminary examination, and before receiving a certificate must gain twenty-four points. This requirement is to be further increased to forty-eight points, commencing with the session 1897-98. This means four years in a high school before entering college, and with the three sessions means a study of seven years before becoming qualified to practice.

Our local Board of Health recently passed an ordinance requiring all milkmen to take out a license (see papers attached). They are also testing with tuberculin all the cows in the city, numbering about 3,500 ; they are producing at present diphtheria anti-toxine, mallein, tuberculin and antitetanine.

One fact I wish to bring before this Association is, that the meat and milk inspectors appointed by the Health Department are not veterinarians, and in my mind some action should be taken by this Association in the matter.

The number of veterinarians at present employed in official positions in this city is as follows : City Health Department, 2 ; Street Cleaning Department, 5 ; Fire Department, 1 ; Police Department, 0. The U. S. Department of Agriculture employs 7 veterinarians as meat inspectors at the various abattoirs.

As to our experience with the use of tuberculin and mallein as diagnostic agents, we can only say that they have given us positive and gratifying results, and I can say that they are indispensable.

My experience has been that we have not as yet an antitetanine of sufficient strength to cure tetanus, but as a preventive I recommend its use.

The mortality in cattle from anthrax has been very materially reduced by the use of anthrax vaccine, although we have very little use for that agent in our large cities, especially in New York.

The State inspection for the prevention and eradication of tuberculosis has been stopped, due to the lack of money. A bill presented during the last legislation asking for $300,000 for this purpose, failed to pass. For the same reason, the appraisers, who were appointed to appraise and condemn glandered horses were dismissed, and at present no remuneration is given for glandered horses.

Discussion followed Dr. O'Shea's report, in which a motion prevailed to draft a resolution under the seal of this Society to be presented to local boards of health, petitioning them to employ qualified veterinarians on the boards, which was at follows:

The New York State Veterinary Medical Society in annual convention in the City of Buffalo, September 4 and 5, 1896, do represent as follows:

WHEREAS, the various positions of meat and milk inspectors of the State of New York are now being filled by men who are totally unqualified by education to fill the same; and

WHEREAS, the public interests in these respects are suffering in consequence of such conditions; therefore be it

Resolved, That this Society hereby respectfully petitions the said authorities to place in control of these important services none but graduates of recognized veterinary colleges.

Dr. Wilson Huff, County Secretary for Oneida County, rendered an oral report giving details of the sanitary requirements imposed by the Board of Health of the city of Rome on all dairymen who deliver milk in that city. The requirements are quite exacting. Dr. Huff is the sanitary inspector of dairies for the city. His work is securing the inhabitants of Rome pure, wholesome milk.

Oral reports were made of several other counties. They were consensual in the main that if the consumers of flesh and dairy products were properly protected against disease through the medium of these foods, it must of necessity be at the hands of the veterinarian.

A motion prevailed, signed by Drs. O'Shea and Baker, to amend the By-Laws, Article VIII, Chapter I, relative to annual dues, to read as follows: "The dues shall be $3.00 per annum, payable in advance." It was ordered spread upon the minutes to take its regular course at the next annual meeting.

Also a motion prevailed, signed by H. Sutterby and W. L. Baker, to amend Article VIII, Chapter I, of the By-Laws, to read as follows:

"The application of a candidate shall be accompanied by the initiation fee of five dollars and the first annual dues of two dollars, and if elected the money so received shall be appropriated to the use of the Society. The elect after signing the By-Laws and Constitution, and upon the presentation of the Secretary-Treasurer's receipt for the amount named, shall be presented by the Secretary with a copy of the By-Laws and certificate of membership. If the candidate be rejected, the money so received shall be returned to him."

The Board of Censors reported favorably the following applicants: F. C. Gernside, Mt. Morris; Harry D. Gill, New York; G. C. Kister, Holley; John T. Liddle, West Shelby; F. D. Markham, Utica; J. O. Moore, Wilson; Charles John Mulvey, Moore's; J. A. McCrank, Plattsburg; W. H. Pendry, Brooklyn; Romanzo Perkins, Hardy's; W. L. Williams, Ithaca; Mark D. Williams, Middleport.

A motion was carried to suspend section third of Article V, relative to the election of candidates, and that the candidates presented be received into the Society by unanimous consent.

A motion was carried to levy an assessment on the members of sufficient size conforming with the By-Laws to meet the obligations of the Society, and that half of the requisite amount shall be collected during the years 1896-97, but members elected at the annual meeting of 1896 shall be exempted from said assessment.

Meeting adjourned.

September 5th.—Second Day's Session.

Meeting called to order at 9 A. M. by the Secretary. Dr. R. R. Bell was asked to preside, Dr. Hinkley being absent. Unfinished and miscellaneous business was taken up. Letters of regret were presented from Drs. Latourell, of Yonkers, Giffen, of New York City, L. McLean, of Brooklyn, and J. W. Darby, of Port Plain.

The resignation of Dr. J. H. Ferster, of New York City, was offered. A motion prevailed to lay the matter on the table with instructions directing the Secretary to communicate with Dr. Ferster to ascertain the cause, and report at the next annual meeting.

Dr. Crowforth, of Lockport, presented grievances relative to a paper read by him at the last annual meeting of the Society, on the ground that his paper did not receive professional recognition after the same had been solicited by the editor of the *Journal of Comparative Medicine and Veterinary Archives.* The journal, after receiving Dr. Crowforth's paper, refused to publish it, accusing the author of plagiarism. Drs. Geo. Berns and John Wende held to opinions, which were coincident, that Dr. Crowforth's complaint was out of order. The Chair, Dr. R. R. Bell, overruled these opinions, on the ground that Dr. Crowforth was a member of the Society; that he had been asked by its president to prepare and read a paper; he had complied, which made his paper association property, and therefore was entitled to be heard. Dr. Crowforth asked to be allowed to re-read his paper that the members present might judge of its merit. The chair concurred. After the paper had been read, the Society ordered it laid on the table.

It was moved to proceed with the regular order on the programme. Reading of professional papers was in order. Dr. Thomas Giffen, of New York, was called to read a paper on "Veterinary Education." Absent. Dr. Geo. H. Berns to read a paper on "Navicular Disease in Horses." Dr. Berns asked that his paper be held over for the next regular meeting. The chair so ordered.

Dr. J. P. Thompson, of Niagara Falls, was called to present his paper on "Jurisprudence"; absent.

Dr. Wilson Huff, of Rome, read his paper, "Bacteria in Milk," which was listened to with interest and heartily received.

The chair requested Dr. Pendry, of Brooklyn, to open the discussion. In doing so the Doctor gave some of the details of dairy inspection in Kings County, as required by the Health Department of Brooklyn. He spoke earnestly of the needs of a pure and uncontaminated milk supply for our cities and of the many insidious conditions which expose it to infection, and thought the Society should use its best endeavors to procure such legislation as would establish systematic inspection, quarantine and fair indemnity throughout the State for all cattle condemned and slaughtered as suffering with contagious and infectious diseases.

Dr. W. L. Baker, of Cortland, related some of the conditions surrounding the dairy interests of Cortland County, and called special attention to one dairy near the city of Cortland that was selling its product in that city until a clinical inspection revealed that the herd was tuberculous. The health board then refused the milk, but it was now being sold in New York City.

Dr. John Wende spoke of the character of some of the infantile diseases in Buffalo, and stated that seventy-five per cent. of the deaths of children from enteric troubles were due largely to unclean nursing bottles with long nursing tubes, and believed there would be much less enteric trouble among children if mothers and nurses use the utmost caution in cleaning them.

The discussion on Dr. Huff's paper was instructive and interesting. The Doctor was given a vote of thanks for his very able paper.

A paper, entitled "Veterinarians as Sanitarians," was read by C. D. Morris, after which the meeting adjourned for lunch.

September 5, 1896.—Afternoon Session.

Meeting called to order at 1.30 P. M. Dr. R. R. Bell in the chair. A communication was read which had been sent to the Secretary from the Cosmos Club of Washington, D. C., soliciting funds to aid in the erection of a monument to the memory of M. Pasteur in Paris. The Society directed the Secretary to open a subscription, asking for an amount between twenty-five and fifty cents from all the members, to give a receipt for and keep a record of the same.

The chair appointed Drs. H. Sutterby and H. S. Wende as auditing committee to verify the financial accounts of the Secretary for the current year.

After a brief discussion relative to the place for the next annual meeting, the Society decided to go to Syracuse.

Auditing committee reported Secretary-Treasurer's accounts correct.

Thus ended one of the most profitable and enjoyable meetings this Society has ever held, from the view point of numbers and interest. CLAUDE D. MORRIS, *Secretary.*

ASSOCIATION OF VETERINARY FACULTIES OF NORTH AMERICA.

UNIVERSITY OF BUFFALO, BUFFALO, Sept. 4, 1896.

The fourth meeting of the Association of Veterinary Faculties of North America was held at the above place and date, the following members being present: Drs. Lyman and Osgood, of Harvard University; Dr. McEachran, of McGill University; Dr. Smith, of Ontario Veterinary College; Drs. R. R. Bell and James L. Robertson, of American Veterinary College; Dr. Leonard Pearson, of University of Pennsylvania; Dr. D. E. Salmon, of National Veterinary College (Columbian University); Dr. Hughes, of Chicago Veterinary College; Dr. Jas. M. Wright, McKillup Veterinary College; Dr. Stalker, of Iowa Agricultural College; Dr. Stewart, of Kansas City Veterinary College; Drs. Law and Williams, of Cornell University; Dr. Gill, of the New York College of Veterinary Surgeons, and Dr. W. H. Hoskins, President of the United States Veterinary Medical Association.

President Lyman in the chair, and Dr. Gill acting Secretary.

After roll-call, the President in a short address recited the history of and progress made by the Association.

The minutes of the previous meeting were read, and on motion of Dr. Salmon, seconded by Dr. Osgood, were accepted.

The Secretary-Treasurer's report being read, on motion of Dr. Osgood, seconded by Dr. McEachran, was approved and accepted.

The next order of business was the reading of the papers. First subject, " Uniform Course of Instruction," Dr. J. W. Adams of the University of Pennsylvania, speaker; but not being present, was laid over.

The second subject, that of " Mutual Recognition of Students by Colleges Belonging to the Association of Veterinary Faculties," was then in order, and a paper on that topic was read by Dr. H. D. Gill, and discussed by Drs. Law, Pearson, Stalker, Salmon, McEachran, Hughes, Lyman and Wright. On motion of Dr. Pearson, seconded by Dr. Osgood, that a committee of three be appointed to consider the question and to report in thirty minutes. This was amended by Dr. Stalker, seconded by Dr. Salmon, that the committee report at the next annual meeting (instead of in thirty minutes). This motion was again amended by Dr. Salmon, seconded by Dr. Stalker, that a minimum standard of preliminary examinations be recommended. Carried as amended. The President appointed Drs. Law, Salmon and Pearson.

The third subject, that of " Competitive Examinations for Positions in the Veterinary Faculties" was, on motion of Dr. Pearson, seconded by Dr. Salmon, laid on the table.

The fourth subject, that of " College Fees," was, on motion of Dr. Salmon, seconded by Dr. Law, laid on the table.

The next in order was the admission of members; Drs. Law, Williams, Smith, McEachran, Hughes and Wright signing the constitution.

The next order of business was the nomination and election of officers. For President, Dr. Pearson was nominated by Dr. Osgood, seconded by Dr. Bell, and on motion, the Secretary cast the ballot. Dr. Pearson was declared elected. For Secretary-Treasurer, Dr. Gill was nominated by Dr. Osgood, seconded by Dr. Salmon, and was elected, the President casting the ballot. Nominations for executive committee: Dr. Law nominated by Dr. Stalker, seconded by Dr. Osgood; Dr. Stalker nominated by Dr. Bell, seconded by Dr. Osgood; Dr. McEachran nominated by Dr. Osgood, seconded by Dr. Bell; Dr. Salmon nominated by Dr. Osgood, seconded by Dr. Gill; Dr. Robertson nominated by Dr. Bell, seconded by Dr. Gill. It was regularly moved and seconded that the Secretary cast a ballot for each of the executive committee. Carried. The Secretary casting the ballots, the President then declared the above named gentlemen duly elected members of the executive committee.

Under the head of new business, the question of a national board of veterinary examiners was brought up and discussed by Drs. Salmon, Pearson, Hoskins, Law and Stalker, and a motion of Dr. Pearson, seconded by Dr. Gill, that Dr. Hoskins be requested by this Association to use his efforts on behalf of this Association to procure uniformity in future laws regulating the practice of veterinary medicine in the various states of the United States, and secure the introduction of a clause in such laws that will enable the boards to be established to co-operate with the National Association, and secure a uniform examination, and that Dr. Hoskins be requested to report upon this matter at the next annual meeting. Carried.

On motion of Dr. Osgood, seconded by Dr. Gill, Dr. Hoskins was elected honorary member.

In a very neat little speech President Lyman spoke of the confusion of the meeting, and suggested that hereafter the Association should have a day and time of its own, so as not to have its business interfered with.

On motion of Dr. Osgood, seconded by Dr. Pearson, the meeting adjourned. H. D. GILL, V.S., *Secretary.*

EXTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

RUPTURED DIAPHRAGM [*By P. P.*].—An interesting case which presented no leading symptoms during life, occurring in an old horse during a case of colic, is as follows: The animal, relieved of his abdominal pains, remained ailing and presented in his gait symptoms which justified the suspicions of an injury to the spine. The animal stood with his hind feet advanced and his back slightly arched; he turned around with difficulty; there was loss of power in the hind extremities and a cringing, painful method of progression. No persuasion could induce the horse to move. The pulse and respirations were increased. There was a peculiar movement of the flanks during respiration, but this was considered as having some connection with the spinal injury. After 10 days' sickness the animal died, and at the post-mortem a vertical tear of the diaphragm was exposed, with thickened edges, through which the stomach and the spleen had passed into the thorax, and could not be withdrawn until the opening was enlarged.—(*Vet. Rec.*)

RUPTURE OF THE DIAPHRAGM [*By Mr. A. Peele*].—In this second case the lesion was due to a traumatism received by a shaft point passing under the left side of the chest from forwards backwards. The animal was laid up for about a month for the healing of the wound and during that time presented some slight abdominal pains. She did light work for a month afterwards, and almost exactly two months from the day she received the first injury she was taken sick with colic, obstruction of the bowels and symptoms of pleuritic trouble. The treatment of purgatives, sedatives, enemata, etc., failed to relieve, and the animal died. At the post-mortem an opening of the diaphragm on the left lower muscular part of the muscle, through which several feet of the small intestines had passed. These were congested but not gangrenous. The diaphragm-made opening was round, appeared fibrous, and of a pale straw color. Part of it was congested and evidently recent.—(*Vet. Rec.*)

FISTULA OF THE PAROTID DUCT [*By W. Smith*].—This is the report of the failures that the author met in the treatment of an injury occurring through a wire fence. He tried alum and flour with immobility of the jaws for twenty-four hours; then the hot iron, with pitch plaster; a third attempt was made with cantharides, and yet no better result. As a suggestion to his inquiries for treatment, which are made by him, the treatment which was employed by an old American veterinarian, Dr. Thayer, of Newton, which was reported by him to the U. S. V. M. Association, might also be recommended—viz.: the introduction of a silver tube in the divided canal, holding both ends sufficiently close together, to permit of cicatrization. The silver tube being withdrawn afterwards from the mouth.—(*Vet. Rec.*)

FRACTURE OF THE PELVIS FOR A TIME WITHOUT DISPLACEMENT.—This record is of the case of a mare which was injured during breaking. She had trashed and kicked a great deal the last day she was in harness, and, after a few days of rest to allow her wounds to heal, she was put to work again. When about a mile from home she fell suddenly lame, and was taken back to her stable, where she laid down. She had some trouble to get up, but with a little assistance, succeeded. When standing she carried but little weight on her near hind leg, and she moved it forward with a circumductive movement. Rectal and vaginal examination unavailing. Azoturia is suspected, but normal urine drawn excludes it. The mare received local treatment over the hip, three grains of morphine, and, seeming comfortable, was left for the night. Early in the morning she dropped down suddenly and died. At the post-mortem internal hæmorrhage into the abdominal cavity by rupture of the external iliac on the left side was found, with fractures of the posterior iliac spine on the right side; of the symphysis body of both pubes; fracture of the symphysis ischii, and ramus of the ischium on the left side. The injury was received the day the mare kicked so much, the fragments had been kept in position by the periosteum covering the bones, and, becoming displaced at the time of the fall, had caused the injury to the blood vessels.—(*Vet. Jour.*)

FRACTURE OF THE SCAPULA [*By W. R. Davis*].—This is the record of a horse which had been run into by another attached to a dairyman's van and had received an extensive wound on the middle of the anterior region of the scapula. The animal was very lame, and the wound formed a large but rather superficial cavity, extending upwards into a gap in the anterior spinatus, and at the bottom the anterior edge of the scapula could be felt, ragged, denuded of periosteum, with bits of bones imbedded in the muscles around. The wound was freely enlarged, the pieces of bones removed and the parts dressed twice a day with antiseptic injections. The animal recovered in four weeks and soon resumed work. This case illustrates the great advantage, says the author, of the free use of antiseptics in the treatment of wounds.—(*Vet. Jour.*)

GERMAN REVIEW.

By W. V. BIESER, D.V.S., New York City.

IMPACTION OF AN OAT SHELL IN THE CORNEA OF AN OX.—A two-year-old ox had suffered with severe conjunctivitis for three days. Upon arrival I found the right eyelids intensely swollen, hot, painful, and tightly closed. Only after a great deal of trouble could the eyelids be opened to the smallest extent. The cornea was hazy, opaque; at its junction with the sclera at the lateral angle of the orbit, I found a tightly embedded oat shell. I first tried to extract the foreign body by Ferrant's method. That is, I carried the right index finger covered with a moistened silk handkerchief under the lids and moved it over the circumference of the cornea in the region of the foreign body, as well as the sensitiveness of the parts admitted. But inasmuch as I had to carry the finger in 4 c.cm. in order to reach the eyeball—so excessively swollen were the eyelids—the silk handkerchief not being slippery but adhering, as silk will do to everything except the foreign body, only hindered me in the attainment of my object. After repeated failures I removed the body with my index finger. Some authors advise the use of pincers, paper rolled tightly together in the form of a cylinder with a bulbous end, and other artificial means. In this case, the extreme inflammation, swelling of the lids, depth of the eyeball from the surface, the inability to properly see the eyeball, much more the extreme irritability and spasm of the parts, would have rendered such methods inappropriate, inasmuch as they would have added to the danger of injuring the already extremely inflamed parts, the danger of blind groping practically inaccessible to such artificial attempts. The index finger (tactus erriditis) is the best instrument here. I would like to state further that, not knowing the nature of the case until my arrival, I removed the body without cocaine—(*Schweiz. Archiv. für Thierhlk.*)

HYDRAMNION A DECIDED CAUSE OF RIGIDITY OF THE CERVIX IN A COW.—The causes of cervical rigidity are the following: 1. Various degrees of torsion of the uterus. 2. Hypertrophy of the cervix. 3. Cicatrized cervical rents. 4. Large tumors in the cervix or its locality. 5. Rupture of the uterus. 6. Excessive liquor amnii. I shall only discuss the last cause. An old cow with a decided bilateral uterine swelling had had labor pains for 20 hours, when the pains gave out. Upon vaginal and rectal examination, I found a large degree of hydramnion; the cervix drawn high up into the pelvis, the os uteri tightly contracted, and hard to reach by the finger; the udder was swollen and filled with colostrum. The uterine actions were feeble, as were to be expected from such a condition of affairs; for the uterine layers—especially the circular and longitudinal muscular fibres—were so stretched by the excessive liquor amnii, that they were temporarily paralyzed and could no longer exert their contractile powers, consequently the bag of waters could not be pressed into the cervix and act as the natural cervical dilator.

Nothing of the fœtus could be felt owing to the large quantity of liquor amnii. I therefore resorted to manual dilatation of the cervix, boring the middle finger through the external and internal os; this accomplished I bored through the amniotic sac, let off an enormous quantity of fluid and then dilated the cervix—first with the closed and then with the opened hand—to its utmost capacity and easily delivered a full termed but dead fœtus. By good diet the weakened mother recovered.—(*Schweiz. Archiv. für Thierhlk.*)

DROPSY OF THE SUBCUTANEOUS CONNECTIVE TISSUE OF THE HEAD AND NECK OF A FŒTUS, ASSOCIATED WITH BREECH PRESENTATION, AN OBSTRUCTION TO DELIVERY.—I was called to see a cow which was said to be calving four or five weeks too soon. Previous efforts at extraction had nearly torn off the hind limbs. A partly mutilated fœtus presented by the breech. The hip joints had entered the vulva. The examining hand easily passed the hips; reaching the shoulder, I with difficulty finally passed the hand forward and reached the head. The upper part of the neck could not be circumscribed by the fingers; the neck was excessively swollen; the head felt like a soft, doughy, bullet-like, misshapen and voluminous mass; I naturally thought of hydrocephalus with dropsy of the subcutaneous connective tissue of the neck and shoulders; as the cervical canal was small I gave a grave prognosis. I proceeded to deliver. Upon slight traction the bones of the legs gave away at the hips and hocks. This being the case I disarticulated the bones successively up to the vertebræ. Then I removed the viscera. I then tried to diminish the dimension of the head and neck by drawing off the water, but failed. From lack of room it was impossible for me with my pocket knife to incise the head and neck. Hence nothing remained but to deliver by force. Taking an ordinary butcher's hook I fastened it into the tissues, ran a rope through it, and gave the rope to six persons, three at each end of the rope. I secured the mother to the stall by means of ropes run over a pad placed under the vulva. At the first pull the chest entered the vagina but the shoulders caught; after repeated tractions they entered the vagina, then the head followed and the fœtus was delivered after two hours. On both sides of the neck was a large serous cystic infiltration, no hydrocephalus, but an excessive dropsy of the connective tissue of the head. The mother recovered nicely after ten days.—(*Schweiz. Archiv. für Thierhlk.*)

DROPSY OF THE KIDNEYS OF A FŒTUS AS A HINDRANCE TO DELIVERY.—The front legs and head of a fœtus had protruded through the vulva. Strong traction failed to budge it any further. A. believed that the obstruction lay in the abdomen of the fœtus. He removed the left leg and shoulder, opened the chest and removed its viscera with the diaphragm.

He then withdrew from the abdominal cavity a large portion of an enormous swelling filled with fluid which burst under pressure of the hand. The swelling was a kidney. He removed after this a second similar swelling. The two kidneys together were of the circumference of four times a man's head. The fluid contained in both kidneys amounted to 15 litres. That delivery then proceeded without difficulty is easily understood.—(*Schweiz. Archiv. für Thierhlk.*)

THE BEST METHODS OF ANÆSTHESIA FOR DOMESTIC ANIMALS.—As a result of the interesting labors of G. it has been made clear that with few exceptions, anæsthesia in veterinary medicine ought to be more extensively employed. The best methods are: 1. $CHCl_3$ narcosis. This is the least safe and may be fatal. The best procedure according to G. is to let the animal breathe the $CHCl_3$ exclusively through the mouth, always plugging up the nostrils. 2. The mixed methods of atropine and morphine with $CHCl_3$, and morphine and chloral with chloroform, can be used with less danger. The former method has the disadvantage of causing longer sleep than one would wish, also causing unconsciousness or faints. The latter, if the chloral is pushed too far can be attended with serious consequences. 3. Mixture of ether and chloroform. It is more correct—and less dangerous—to increase the potency of the ether by the addition of chloroform than to diminish the dangers of chloroform narcosis by the addition of ether. The mixture of ether and chloroform is always—in order to avoid accidents—to be preferred to pure chloroform.—(*Schweiz. Archiv. für Thierhlk.*)

FRENCH REVIEW.

ŒSOPHAGEAL OBSTRUCTION IN A SLUT [*By Mr. Gallier*].—This is a very interesting record of a fox-terrier of great hunting value operated upon once for a fibroma of the mammæ. A year after suffering with a mild trouble. She had enjoyed good health until lately. She refused her ordinary meal, ate grass and vomited by intermittence. If she drank she vomited; whatever she took was rejected by the mouth. The author was called in consultation, and found her with high fever, the flank contracted, the intestines empty, the respiration quiet, breath fœtid; palpation did not reveal the presence of foreign bodies in the intestinal tract, yet in the presence of the constant vomiting and the absence of foreign substances in the intestines, a diagnosis was made of obstruction of the alimentary canal. The patient soon grew worse and died. At the post-mortem the stomach contained but little liquid, the intestines empty. In the thorax, the pleural cavities were filled with fluid of a peculiar color, and the œsophagus was found considerably thinned and dilated by a mass formed by bones, one of which had perforated the œsophagus and allowed the fluids given to the animal to drop into the pleura. To all appearances the trouble was of old date.—(*Ibid.*)

CURIOUS CASE OF RECOVERY IN A CRIBBER [*By Mr. J. Maléffe*].—A horse was severely affected with cribbing, constantly sucking wind. One day he started for a good run, and as he was to be arrested, he met with an obstacle, and fell down with a somersault which resulted in a luxation of the fourth cervical vertebra. Unable to get up, he remained lying 36 hours, and was considered as good as dead. The author made some attempts to reduce the luxation and succeeded. From that moment an improvement became manifest, the animal began to move his head, got up and tried to eat. But the most interesting fact is that from that moment he stopped cribbing. This fact seems to prove that the etiology of this bad habit depends on the pneumogastric and the sympathetic.—(*Rec. de Med. Vet.*)

NERVOUS TROUBLES DUE TO A CHRONIC DISEASE OF THE LIVER—BILIARY LITHIASIS [*By M. Averons*].—A case of unusual interest is recorded by the author in the *Revue Veterinaire de Toulouse* in relation to a horse which presented all the symptoms of a general comatose condition, now and then interrupted by manifestations of rage, which made him take hold of and bite his stone manger, upon which he tore all his gums; some colicy pains; micturation difficult; locomotion imperfect, automatic; his respiration slow, the pulse accelerated and strong, the temperature 38.8° C. Under suspicion of cerebral congestion, he was placed under treatment, which seemed to give him so much relief that he was about to be considered as convalescent, when all of a sudden the symptoms assumed a new and more severe form, which ended by death in convulsions. At the post-mortem among the numerous lesions found in the intestines, the stomach and the peritoneum, the liver presented organic changes and also a dilatation, a tumor of the choleduc canal, which contained a large calculus, weighing 258 grammes (over 8 ounces). The divisions of the biliary duct were filled by thousands of little calculi. The kidneys were enlarged, the heart somewhat hypertrophied. The cerebro-spinal axis and its membranes were healthy. In resuming the conclusions of the well-described symptomatology and pathological anatomy of the case the author says, "All the nervous troubles presented by the patient, ataxia, amaurosis, etc., are those of uræmic intoxication. My patient evidently died of uræmia."

DELIVERY IN A COW OF A VIABLE FŒTUS ON THE 221ST DAY OF GESTATION [*By M. Capitaine*].—The size of the product of this premature delivery was in proportion with its development, its skin was covered with very short hairs, the horn of its toes was soft, a rudiment of vulva and of mammæ indicated its sex. Unable to rise or to stand, it seemed full of life, and was artificially fed by the owner, about a pint of milk being given night and day, five times in the twenty-four hours. After eight days it was able to get up but not strong enough to stand, but fifteen days after birth was able to suck its mother. It continued to develop well.—(*Revue Veter.*)

ITALIAN REVIEW.

OCULAR PROTHESIS IN THE HORSE—NEW OPERATING PROCESS.—In *Il Nuovo Ercolani* Mr. O. Vigezzi recommends the placing of the artificial eye only three or four weeks after the enucleation of the natural eye, that is, when all inflammation has subsided. But at that time, the eyelids are more or less drawn into the orbital cavity, and it may be very difficult to fix the artificial eye. To avoid this difficulty, the author has had eyes prepared, one temporary and one permanent. The first is pierced with four holes in cross, three of which are of even diameter, the fourth, the lower one, a little larger; to permit the introduction of antiseptic powders, and drains of hydrophylous cotton. The superior is covered by the upper eyelid and allows the irrigation of its internal face. The two lateral give passage to rubber draining tubes, carrying holes in the portion corresponding to the concave surface of the eye. Thus prepared, the apparatus is put in position as soon as the diseased eye has been removed and the cavity has been antiseptically dressed. The after care consists in washing the operated region as follows: Before all, clean the drainage tube with a sublimate solution and then introduce through the lower opening of the artificial eye phenicated cotton. After the washing of the drain, it is closed with forceps or with the fingers to prevent the escape of the solution, except through the superior or the lower opening. The excess of the liquid which may remain in the bottom of the orbital cavity is absorbed by the phenicated cotton. Thanks to this treatment, Mr. Vigezzi claims that after fifteen days all inflammation has subsided and the permanent eye can be put in position.

DIABETES FOLLOWING CHRONIC HYDROCEPHALY IN COWS [*By Mr. A. Girotte.*]—In the same journal, *Il Nuovo Ercolani*, the author writes that in the beginning of the fall and as soon as a régime of dry feeding was commenced, a cow suddenly presented signs of an insatiable thirst, drinking 120 to 150 quarts of water a day. As a consequence of this enormous absorption, there was abundant polyuria, about 100 quarts of urine being expelled in the twenty-four hours. Otherwise she presented all signs of health and had a good appetite. The analysis of the urine showed a proportion of sugar of 7 grains per 1000. The animal was killed and at the post-mortem showed a well marked ventricular hydrocephaly. To this lesion the author attributes the presence of sugar in the urine and adds that if the diagnosis had been made during life, recovery might have been obtained by repeated injections of muriate of pilocarpine, which would have produced the absorption of the ventricular exudate.

UPON THE WAY TO EXTRACT CALVES IN BREECH PRESENTATION [*By M. G. Fabretti*].—This presentation is the one which presents most difficulties for the accoucheur and the less security for the life of the mother and her product. The author has almost always succeeded in bringing the calf alive, and to have the mother free from trouble by her delivery. He ignores entirely all recommended processes, hooks, ropes, etc., as well as the extension of the hocks backwards. On the contrary, he pushes the hind legs as far under the abdomen as he can, and, taking hold of the haunches with both hands, he moves them sideways,up and down, and taking advantage of the efforts of the mother, he finally succeeds in pulling the calf backwards and out of the vagino-vulvar canal.—(*Il Nuovo Ercolani.*)

FARM ANIMALS IN ITALY.—From the *Giornale Zootecnica and Caseificio* the following figures are taken, given by the Secretary of Agriculture: Bovine, 5,000,000; horses, 920,000; donkeys, 1,000,000; mules, 300,000; sheep, 6,900,000; goats, 1,800,000; swine, 1,800,000. Their value is estimated at 191,200,000 francs, about $38,240,000.

CANDIDATES for next meeting place: Nashville, Tenn.; Columbus, Ohio; Detroit, Mich.; Kansas City, Mo.; and Cleveland, Ohio.

NOTES OF THE BUFFALO MEETINGS.

THE State Society will meet in Syracuse next year. Its centrality won the day.

PRINCIPAL SMITH, of the Ontario College, was an interested visitor to the meeting of the Faculties.

DR. WILSON HUFF'S paper on "Bacteria in Milk" was a very practical exposition of a very scientific subject.

THE discussion on the report from Kings County was the most animated of the meeting of the State Society.

HOW two-year schools can continue as such in the face of the sentiment expressed at Buffalo is hard to understand.

PROFS. LAW AND WILLIAMS related many instances before the State Society of spontaneous recoveries from glanders.

CONGRESSMAN MAHANY, of Buffalo, delivered a most scholarly extemporaneous discourse before the guests at the banquet.

IT was shown in papers and discussions that few autopsies are now considered complete without a microscopical examination.

DR. STEWART, the Secretary *par excellence*, went home loaded down with money—but the delinquents will be goaded just the same.

MRS. DR. HINCKLEY, of Buffalo, did so much to make the lady visitors happy, that their stay will ever be one of the most pleasant memories of their lives.

THE Buffalonians set a killing pace in the matter of entertainment that will be hard for other cities to follow. Their natural resources was a considerable aid to them.

DR. LEONARD PEARSON, State Veterinarian of Pennsylvania, and one of the editors of the *Veterinary Magazine*, made a record for doing much effective work in debate and committee.

DR. WM. H. PENDRY, of Brooklyn, advocated before the State Society, the establishment of a State Bureau of Animal Industry, with the especial object of controlling tuberculosis.

THERE can be no question but that sanitary medicine is more enticing to state veterinarians and experiment station veterinarians than to practitioners of veterinary surgery. The latter is more concerned in diseases with which he daily comes in contact. Would not a more equal mixture of ingredients make a smoother ointment?

NASHVILLE, TENNESSEE, will make a bold bid for the meeting of '97. It is thought that the august presence of the National Association will greatly assist the profession in that state.

DR. WM. DOUGHERTY, of Baltimore, seldom fails to be present at the meeting of the U. S. V. M. A. and the commencement exercises of his alma mater, the American Veterinary College.

THE number of good speakers was generally remarked, among them may be mentioned Stalker, Pearson, Osgood, Salmon, Lyman, Williams, Grange, Robinson, Hoskins, Hinman, and others.

THE attendance upon the National Association was more than national in reality—from Nova Scotia to Louisiana, from Manitoba to Alabama, from Montana to Tennessee, from Nebraska to Maryland.

THE banquet at the Genesee House on the evening of the last day of the National Association meeting was a brilliant success,—the repast exquisite, the speaking of a high order, and the good fellowship overflowing.

DR. W. J. HINMAN, of Manitoba, says his province has the best veterinary laws in existence. This comes from having veterinarians in the legislature. We might do well to emulate her example by encouraging veterinarians with political proclivities.

WE heard some comment to the effect that practical subjects were being crowded out of the deliberations too much, that while the great and all-absorbing topics of state medicine were of paramount importance to all others, that they were not so with all members.

IN the Faculties meeting the foundation was laid for a union of work and recognition between the various state boards of veterinary examiners. The chief obstacle seemed to be that New York was compelled by law to hold to a too high standard of matriculant examination.

DR. GEORGE H. BERNS, as county secretary of the New York State Society for Kings County, presented one of the fullest and most interesting and comprehensive reports that has ever been received in that society. If the various secretaries were to follow his example that part of the programme would be the most entertaining of the meeting.

PROFS. MCEACHRAN, of McGill, and Smith, of Ontario, classmates in Scotland, had a heated discussion at the banquet upon the proper length of a veterinary college course, but finally buried the hatchet under a bumper of wine.

NO man ever worked harder nor succeeded better in making others comfortable and happy than did Chairman Hinkley, of the local committee of arrangements. He was ably seconded by Drs. Samuel Somerville, Jr., John Wende and Willyoung.

THE absence of Prof. Olof Schwarzkopf, chairman of the Executive Committee of the Association of Faculties, was greatly regretted by himself and his colleagues. His official duties detained him at the last moment, but he fulfilled his offices by letter in a very satisfactory manner.

SCARCELY a veterinary school lacked representation at Buffalo. The American, Robertson and Bell; Chicago, Hughes; McKillip, Wright; New York, Gill; Harvard, Osgood and Lyman; Cornell, Law and Williams; Pennsylvania, Pearson; Kansas City, Stewart; Iowa, Stalker; National, Salmon; McGill, McEachran; Ontario, Smith.

A PLEASANT TRIP TO TORONTO.

A number of members of the United States Veterinary Medical Association, who were in attendance upon the recent meeting in Buffalo, availed themselves of an opportunity to visit the city of Toronto. A party of veterinarians crossed Lake Ontario on the evening boat on Friday, September 4th, consisting of Drs. Cotton and White, of Ohio; Drs. Faulkner and Hoffman, of Western Pennsylvania; Drs. Hoskins and Pearson, of Philadelphia; Drs. Gill and Ellis, of New York; Dr. Ackerman, of Brooklyn; Dr. Stewart, of Kansas, and Dr. Hughes, of Chicago. Drs. Pearson, Hoskins and Stewart and Mrs. Hoskins were guests at the house of Prof. Smith on the evening of the 4th, Drs. Osgood, Gill, Ackerman and Ellis, and Mrs. Osgood were guests at the Queen's Hotel, the rest of the party stopping at the Red Horse and other hotels.

On the morning of the 5th, by appointment, the party met Prof. Smith at the Ontario Veterinary College, in Temperance Street, and after being shown through the institution, were driven around the city in carriages and shown the points of interest; among other things, stopping at Prof. Smith's residence, and being introduced to his family. This part of the programme over, the Professor piloted the party to the Industrial Fair, then going on, and in addition to seeing the grand horses and cattle and other products of the fertile soil of Canada, the party were introduced to the president and other members of the association managing the fair, and were invited by them to a beautiful, artistically decorated bower hung all round with green boughs, etc., to partake of luncheon with the members and others of their guests. The place presented a beautiful spectacle, all trimmed up with the English flags. The tables were waited on by the daughters of the members, a very pretty lot of young ladies, wearing bows made of the English flag. In the midst of the luncheon all were requested to rise and sing "God Save the Queen." After partaking of a sumptuous meal, toasts were responded to by gentlemen having the prefix of Sir to their names, and others with the affix of M. P. after them. After a number of speeches, Dr. Hoskins was called upon to respond for the U. S. V. M. A., and it is needless to say that he did so in an able and eloquent manner. The party started homeward on the grand lake steamer Corona, in high spirits, soon to be lowered, however, by sea sickness, which overcame nearly every one on board, so rough was the lake. They reached Buffalo in time to take the midnight train for New York, feeling well satisfied with their trip to a foreign land.

R. W. E.

NEWS AND ITEMS.

PROF. W. J. COATES, who was unfortunate enough to break his arm, is making a rapid recovery.

TO BE UP TO DATE.—Read the AMERICAN VETERINARY REVIEW, and join veterinary societies.

DR. H. R. MACAULAY, of Indianapolis, is deserting veterinary for human medicine, having matriculated at Montreal.

OBITUARY.—Dr. J. L. Windolph, a genial and whole-souled practitioner, died at his residence in Darlington, Md., on the night of August 21st.

PROF. JAS. L. ROBERTSON is enjoying the best of health and will resume lecturing on equine pathology at the American Veterinary College this month.

WHY don't the Judiciary Committee prosecute illegal practitioners? Have they no material to work on or what? Surely the chairman ought to answer—why this delay?

Dr. H. B. Adair, of Kansas City, and Dr. F. W. O'Brien, of Hannibal, Mo., have passed civil service examinations and been placed upon the eligible list of the Bureau of Animal Industry.

Dr. R. A. Archibald, late of San Francisco, has severed his connection with the Bureau of Animal Industry, moved to Oakland, formed a copartnership with Dr. F. E. Pierce, at 1720 Webster Street, and settled down to private practice.

Dr. Frank H. Miller, of Burlington, Vt., who has been studying the specialty of canine pathology in Europe for some time, has returned to this country, and expects to locate in New York City and devote himself to that branch of veterinary science.

The Veterinary Medical Association of New York County will hold its next regular meeting (the first since June), Wednesday, Oct 7th, at 8 p.m., in the Academy of Medicine, 43d St., near Fifth Ave. All members should be present, as important matters will be discussed.

Do You?—Do you get cases you do not understand? . . . Do you get a complete history of the case? . . . Do you note the symptoms? . . . Do they die? . . . Do you hold post-mortems? . . . Do you write short reports of such cases for the American Veterinary Review and become informed about such cases? Try it and see the results. F. X. T.

The Acme of Quackery.—The following paragraph is taken from a circular which fell into our hands at Buffalo: "Ready for use, is my colic drench. I can cure colic instantly if taken in time. Had four cases, all different, inside of ten days. Finally never lost a case. You cannot make a mistake with this medicine in any case; for if the animal don't walk on this he never will on any other," etc.

Heat Prostrations.—H. D. Fenimore, D. V. S., of Knoxville, Tenn., writes as follows: "Was called to a number of horses that were overcome by heat this summer. Some showed the mildest symptoms of slowness and weakness of gait, perspiration checked, panting, nostrils dilated, pulse rapid and weak, while others showed these symptoms very much exaggerated and unconsciousness. I treated them all alike by turning the hose on them in full force, particularly on the head and back. In every case they regained consciousness in from one-half to three-quarters of an hour, and by the time they were rubbed dry they were ready for their accustomed meal, apparently as well as ever."

THE NEW YORK COUNTY V. M. ASSOCIATION meets this month after its summer vacation, and all qualified men in Kings, Queens, Richmond, Suffolk and Westchester Counties are now eligible for membership. This can easily be made the strongest working association in this country, and all metropolitan veterinarians should send in their applications to the Secretary, Dr. Robert W. Ellis, 531 West 152d Street, New York.

MORE CHEERING WORDS.—A veterinarian of the South writes under date of Sept. 8th, and we take the liberty of extracting a paragraph referring to this publication: " . . . The REVIEW has easily taken the foremost rank of American veterinary publications. . . . It is essentially an American veterinary review, and it does not give any evidence of being published for the aggrandizement of any one of its editors, nor of any graduate of any particular school, even though it is owned and edited by two professors of a school from which I did not graduate."

DEATH OF CHARLES F. DOUGLASS, D.V.S.—By a late issue of the *Jamaica Post*, published at Kingston, Jamaica, West Indies, we learn of the sad death from fever of the above promising and popular member of the veterinary profession. Graduated from the American Veterinary College in 1892, he had been practicing in his native city until a few months ago, when he accepted a government position in Hayti, and had just assumed charge of his new duties when the fatal fever attacked him. It seems that death is especially active among the alumni of the A. V. C.

PASTEUR VACCINE COMPANY, LIMITED.—The advertisement of this company is printed elsewhere. It was formerly the Pasteur Anthrax Vaccine Co., but they have enlarged their business by going extensively into the manufacture of tuberculin, and hence the change. They have recently moved into more commodious quarters in Fifth Ave., Chicago, and are prepared to furnish corporations and individuals with a pure article of the latest serums at moderate prices. Mr. Harold Sorby is manager of the branch for the United States and Canada, and the character of their productions is worthy the confidence of the public.

CRIBBING CURED BY THE ELECTRIC CURRENT.—A valuable six-year-old trotting horse formed the habit of crib biting on the manger and parts of the stall. It became so persistent that he fell a victim of indigestion. The owner put in an induction coil, a three-cell battery, a flexible cord led from it to the horse's back under the surcingle. The stall was lined with tin where the horse had been chewing. The connection was made so that when he touched his lips to the tin at any point the electric current ran through his head and along his spine to the surcingle. This would cause him to turn away with disgust, and after vain efforts to pursue his former pastime, nothing could induce him to again attempt it, and the result is that he is now eating and digesting his food naturally.

SPAYING MARES.—The Montana Experiment Station has begun experiments in spaying mares, of which it says: Heretofore this operation has been performed chiefly in isolated cases of disease or vice. It is now proposed with our over-production as an economic measure to limit the production and control in a measure the quality of our horses and render more valuable for work purposes those operated upon. It is believed that spayed mares will prove more tractable and kind than open mares during their periods of "heat"; that they will escape the loss of flesh and condition which open mares undergo at this period; that they will prove neater and cleaner in the stable than geldings and be free from the annoying accumulations of dirt in the sheath of the latter, and that in every sense they will be equal, if not superior, to geldings in form, symmetry, courage, endurance and all essentials that go to make up a serviceable horse. In addition to these expected advantages it is evident that mares not intended for breeding purposes are free from the annoying danger of accidental impregnation by mongrel stallions which infest so many of our ranges. A number have already been spayed with apparently no greater danger than castrating colts, and it is desired to continue the experiment on a number of good mares in lots of twenty to thirty each free of charge to such owners as will take sufficient interest in the matter to afterwards handle the animals and report the results.

PRACTICE FOR SALE.—LAST NOTICE.

A well-established Veterinary Practice, in a city of 80,000, in a splendid agricultural district. Only one competitor. Good reasons for selling. Address, "PRACTITIONER," No. 1302 Felix Street, St. Joseph, Mo.

BACK NUMBERS WANTED.

For Dr. W. L. Williams' File: VOLUME XVIII., No. 6, (September).
For Dr. S. Stewart's File: VOLUME XIX., No. 9, (December, 1895).

Any subscriber having duplicates of either or both of above numbers will receive 25 cents each and thanks by sending to office of THE REVIEW, 141 West 54th Street, New York.

AMERICAN VETERINARY REVIEW.

NOVEMBER, 1896.

EDITORIAL.

UNIFORMITY OF STATE VETERINARY EXAMINING BOARDS.

At the Buffalo meeting of the Association of Veterinary Faculties of North America the above subject was very fully discussed, and the conclusion reached by the delegates of the various schools was that the State Boards should be organized as far as possible upon the same lines, that the requirements should be similar, and that the action of any single board should be recognized by the others. In this way a license obtained by an applicant would be accepted in any other State of the union having a similar licensing body, and the licensee would be admitted to practice by a simple endorsement by the resident board, without examination. This method, it was deemed, would as nearly approach the much-discussed "National Board of Veterinary Examiners" as it is possible to attain. It was shown that, with the exception of New York State, the requirements in all the other commonwealths (eight in all, we believe) are very similar, and steps were taken by the Faculties Association to endeavor to insinuate similar provisions into the laws of all States contemplating the enactment of such statutes. Now, the Empire State, in her efforts to secure protective laws for the veterinary profession, obtained more than she needed, much more than was good for her, and in consequence she must stand alone in the enjoyment of her stringent requirements, as the profession in other States certainly cannot afford to follow her example. It was explained by one of the chief promoters of the act placing our colleges under the Regents and creating the Examining Board, that we were forced to accept this law or be content to again suffer defeat of our demands, and several of the members believed that an effort to modify the law now would result in an overthrow of the entire proposition. There can be no question but that the matriculation examination by the Regents is entirely too radical a departure from the past, that the elevation of the standard should have been more gradual. No one can be more jealous of higher education than the REVIEW, as will be proven by reference to its pages for the past twenty years; but there is a sliding scale between evolution and revolution, and if it were in existence our schools would have suffered less by more conservative action. If it really was a question of law or no law, there is no suggestion but that what we have secured is preferable to its absence from the statute-books. We do not feel justified, however, in advising other States seeking to secure legislation of a similar import to follow in our footsteps, and therefore New York must remain a stumbling block in the path that leads to perfect harmony and mutual recognition between the examining boards of the various States. It is probable that this cannot be avoided, and, therefore, we must make the most of it.

While a perfect organization cannot exist between these boards, it can be so with the exception of New York. Much good can be accomplished by them, and we strongly urge all members of the profession in States looking to the enactment of such laws to consult the bills that have been passed in other States and make theirs uniform in requirement, so that recognition of each other's acts can be easily accomplished.

FALSE REPORT OF PLEURO-PNEUMONIA.—The fool-killer would find very profitable employment if he were to visit the editorial sanctum of an agricultural journal called the *Orange Judd Farmer* and annihilate the individual who is responsible for having committed the very unpardonable crime of printing the following announcement from Center County, Pennsylvania:

> "One of the greatest scourges the farmers in this part of the State have had to contend with for some time is the great prevalence of disease among their cattle. Dr. Pearson, State Veterinarian, is kept busy trying to eradicate the diseases, but thus far has not succeeded. Tuberculosis and pleuro-pneumonia are the two worst. The entire reservation of young cattle on the Allegheny Mountains is afflicted with the latter disease and all have been quarantined. Over a hundred head have been killed and the carcasses burned."

Any one in the least acquainted with the history of contagious diseases in this country would not have had to await the very prompt and emphatic denial of the existence of a single case of contagious pleuro-pneumonia by Dr. Leonard Pearson, State Veterinarian of Pennsylvania, because the merest tyro in recent history would know that such an alarming occurrence as the reappearance of that loathsome malady in this country would have been heralded by a much more reliable carrier than the journal which is edited by some one who is utterly incapable of giving public utterance to any statement of importance. We hasten to emphatically assure the profession and public of this and every other country upon the face of the earth that no single case of pleuro-pneumonia contagiosa has appeared in Pennsylvania under any guise within a recent period.

THE ARMY BILL.—The following circular letter from the Committee on Army Legislation of the United States Veterinary Medical Association, has been forwarded to all known veterinarians in this country:

(Confidential.)

FORT MYER, VA., Oct. 17, 1896.

DEAR DOCTOR:—Accompanying this letter you will find some circulars clearly setting forth the condition of the veterinary profession in the United States Army and the great need for its improvement.

The United States Veterinary Medical Association has appointed the undersigned committee to take charge of this work, and we ask your active co-operation.

The Veterinary Bill was introduced last winter and was favorably reported, but owing to political complications we were unable to get it to a vote in the House of Representatives.

This winter it will be brought before the House early in the session, and we have every assurance of success, but to clinch this matter we must be vigilant.

A great election is at hand, and men who wish to be U. S. Senators and Representatives are seeking your suffrages. Call on them personally, or have your political friends call on them, before election and get their written promises to support this worthy bill, and send such promises to our Chairman, to assist him before Congress.

When Congress convenes in December, write to your Representatives and Senators and remind them of their promises. Please give this matter your early and vigorous attention.

Yours for veterinary progress,

J. P. Turner, *Chairman*, Fort Myer, Va.,
John R. Hart, 2577 Amber St., Phila., Pa.,
Austin Peters, Jamaica Plain, Mass.,
Committee on Army Legislation, U. S. Vet. Med. Association.

It was clearly shown before the recent meeting at Buffalo that the passage of this bill during the next session of Congress was almost certain if an earnest effort were made to accomplish it; it has been the basis of a great deal of hard work by this committee, as well as by previous committees; no other bill has ever before received the unqualified endorsements of the officials of the War Department nor a favorable report from the Army Committee, and no former bill was ever in such shape to become a law as this one. All that is now required is a long pull and a strong pull, and the position of army veterinary surgeon will be a post of honor and not a menial one of which all who hold them are ashamed.

Readers of the Review, do not neglect the opportunity that is here presented to do yourself the honor of complying with the request of the Committee. Give a few minutes of your time to a work that this Committee is giving days to, and money besides.

A Good Appointment.—The Governor of Massachusetts has appointed John M. Parker, D. V. S., of Haverhill, a member of the Cattle Commission of that State, to succeed Prof. Lyman. Dr. Parker has for a long time taken a very active interest in the subject of tuberculosis, having given to the profession some very valuable contributions from his pen as a result of much original research and earnest thought, and his recognition by his State for a position which he is peculiarly fitted to fill and adorn is in the direct line of progress, as the recipient will take with him into that important office an amount of enthusiasm and energy that will greatly second the efforts of the other members, and it will undoubtedly be a great addition to the cause of State control of contagious diseases of animals, for his work will assuredly result favorably to that proposition and will reflect credit upon the veterinary end of the Commission. We compliment the appointive power upon their wisdom, and the Doctor upon his opportunity.

OPENING OF THE NEW YORK STATE VETERINARY COLLEGE.—On September 26th the first session of this institution was opened to the public, and the event is of more than passing interest in that it is the first veterinary school in America established under governmental control. The event was characterized by a large attendance of friends and well-wishers from other departments of Cornell University, and a class of students which, while not large, bore evidence of being of the right kind. Prof. James Law, the principal, delivered a long and interesting address, going deeply into the history of veterinary medicine and the establishment of the earliest schools. The REVIEW will print the address in full in the December issue.

ORIGINAL ARTICLES.

DIABETES MELLITUS IN DOGS.

BY FRANK H. MILLER, V.S., BURLINGTON, VERMONT.

A Paper read before the United States Veterinary Medical Association, Sept. 3, 1896.

In my endeavors to contribute to the interest and success of this brilliant congress, composed of the foremost members of our beloved, honorable, and humane profession, I am from the very nature of my surroundings compelled to feel my incapability to present in a becoming manner for your consideration my observations upon a subject so beset with perplexities as that to which I am about to refer.

In speaking of "Diabetes Mellitus in Dogs," I simply take dogs as representing those animals which I have had most occasion to study, not that I hold them to be those alone which suffer and die from this disease.

I am aware of the fact that some authors in the field of veterinary literature either dispute its existence or question its having been adequately demonstrated, while others, admitting its existence and after paying compliment to its infrequency, hastily dispose of the matter by adding that its true pathology is unknown.

Now, from a certain standpoint, these observations are as excusable as they are incorrect.

Writers in comparative as in human medicine all have used their own as well as the experience of their fellow laborers, but regarding this particular disease among animals there has been extremely little evidence of any value brought forward. The sole reason why there is not this day to be found in all standard veterinary text-books treating of internal diseases the most scientific treatise upon diabetes mellitus is that veterinarians as a great class place absolutely no value upon urinary analysis as a diagnostic medium. And this is true not alone in respect to this disease, but many others which we are called upon to treat.

Who, of all men who devote their lives to the study of the animal body and its phenomena, should so thoroughly grasp every available source of enlightenment as we who deal with fellow creatures wanting in power of speech intelligible to us.

Gentlemen, the day has passed at the house of scientific veterinary medicine when the clinical report of a sick animal is complete or in the slightest degree satisfactory without its relation to the proper urinary tests.

No, indeed, diabetes mellitus of the lower animals, and especially of our friend the dog, is neither such a rare disease nor one of which but little is known. It is true, the study of it has not up to the present day been able to satisfactorily clear up its entire horizon, but it has certainly shown some wonderful truths which must ultimately be fruitful in placing it in a clear light.

It has been my fortune to stand at one of the greatest polyclinics of one of the mother schools of Europe and glean knowledge and inspiration from their field, and during 236 clinic days there were established by systematic clinical examination six clear cases of this disease from among 6,104 small animals presented.

With your permission, I will submit histories of these cases so far as I have been able to obtain them, for, as you are aware, the despatch with which all cases must necessarily be handled when nearly 11,000 patients pass over the same examination table in the space of one year, is not conducive to long clinical records, but those more to the point. I have in all these cases seen the animals undergoing examination, and along with the report entered upon the register I have made personal visits to the various owners, that I might learn more fully the true states which lead up to the final disease of their animals.

Case No. 1.—Terrier, mongrel, female, 8 years of age, weighing about 10 lbs., owned by Frau Lili Straus, 40 Leipzig Street, Berlin, presented in Polyclinic Nov. 8th, when after the usual examination had been made the diagnosis of diabetes mellitus was given. There was 6⅞ per cent. of sugar found in the urine. No treatment was given and an autopsy was asked for, but refused. I some months afterward gained the following history from the owner, who had been in possession of the patient since the sixth month of its age; that it had always had good health until June, 1895. At the age of two years she had been "lined" and bore 3 healthy puppies at full time, and from that time she began to accumulate fat, notwithstanding a very nervous temperament and much exercise (which latter I found incorrect, as she seldom left the room except upon the lead line). Two and one-half years ago or thereabouts a tumor-like enlargement was noticed upon the second segment of the left mammæ, which grew slowly until it had reached the length of a finger and gave a knotty formation. The skin was adherent, but unbroken.

The first real evidence of ill health was increased thirst and appetite, accompanied by loss of flesh and diminished activity.

She had been fed on meat in great part with table refuse, and a fair amount of sugar and sweetmeats had been allowed. Urination became frequent, and later the ability to control its flow was lost. No vomiting nor diarrhœa was present. It was at about this stage that she was presented in the Polyclinic.

Prof. Eber remarked the tumor of the mammary gland and held the same for a malignant growth. He also pointed out beginning cataracts to the owner. After this date the symptoms grew more and more marked. She grew very apathetic. The food and water were taken in inordinate quantities, great emaciation, however, set in and there was almost complete paralysis of the *sphincter vesicæ.* Early in May paresis appeared, and later convulsive symptoms with loud crying and evidence of great cerebral excitement. Death took place in one of these somewhat remittent attacks. She had been totally blind for several weeks. The tumor had increased much in size, but showed no other change. No post-mortem examination was made.

Case No. 2.—Blue-black terrier, 14 years of age, male, weight about 9 lbs., property of Frau Krippendorf, 8 Schonholz Street, Pankow. The patient, naturally of lymphatic temperament, took but little exercise, and at an early date became too fat to ascend the stairs. The diet had been the usual table offal and meats, including a fair amount of sugar each day. For the past six years there had been difficulty in respiration, for which he had at an earlier date been seen in the Polyclinic, where he had been prescribed nitroglycerine in minimum doses with good effect. January last he was noticed to have increased thirst and appetite, when emaciation set in. He grew apathetic and drowsy. No paralysis was marked. Feb. 7, at this point of the case, he was examined in the Polyclinic for small animals, and after the usual examination was pronounced as diabetic, with 8½ per cent. of sugar in the urine. No medical treatment ordered, and autopsy sought but refused. Although put upon a thoroughly flesh diet, all symptoms had increased by early May to a point when his hind legs were very weak, and in the early part of June he lay partially paralyzed and totally blind, after first having suffered an attack of what appeared to have been identical with the cerebral excitement of case No. 1, crying and rushing about the rooms. Along with the paresis was remarked facial twitching (epileptiform spasms) and semi-stupor. This condition continued for a few hours and was again followed by crying. At this point prussic acid was administered. No autopsy made.

Case No. 3.—This case, a 7½ year old Yorkshire terrier, male, owned by Lieut. Scharff, Spandau, was admitted to the ward for surgical diseases, February 18, 1896, under the request that the cataract operation be performed. The patient had been treated for polyuria in the Polyclinic two months previously, and since that time had developed double side lenticular cataract, and vision had failed, causing the owner to wish that an operation might be performed, hoping it might at least restore partial vision. He is in good flesh, food and water consumption has since his admission diminished. The visible mucous membranes are rose-red in color, and a slight serous discharge is to be seen at the eyes. The pulse's frequency is 120 in the minute, fairly strong and rhythmic. The cardiac impulse can be felt; abnormal tones cannot be detected. Auscultation of the lungs reveals normal vesicular respiratory sound. Temperature 39.1 degrees Cent. There is opacity of both lenses of the eyes and vision much disturbed. Urine of whitish opalescent character and of 1,044 specific gravity; albumen present in goodly quantities. No epithelium, nor other solid bodies. Grape sugar is present in abundance; another change to be noted was the somewhat increased quantity of chlorides and phosphates. Diagnosis: diabetes mellitus. Prognosis unfavorable. The operation was by reason of the elevated temperature and catarrhal symptoms postponed for a few days, and daily observation was made as to the sugar, when its quantity fluctuated upon a purely non-farinaceous diet from 7 to 8.2 per cent. Without material visible aggravation of the symptoms, the patient was, upon the 24th day, or five days after his admission, found dead in his cage. The official post-mortem examination was made Feb. 24, and the following report made:

"Poorly nourished terrier, male. Rigor mortis visible, but not marked. Both eyes are cataractous. In the free cavity of the abdomen is a small quantity of clear yellow fluid. The parietal and visceral peritoneum is pale red in color and smooth. Position of the viscera normal. The contents of the digestive canal consists of a small quantity of slimy turbid looking fluid. The stomach contains only a layer of mucous material. The mucous membrane of the rectum and the pylorus of the stomach is thickened and thrown into folds, which are upon their summits very red and injected. The spleen is brown-red in color, the pulp firm, and in cross section the trabeculæ are plainly visible. The liver is enlarged and of yellow-brown color, and in the middle of the enlarged acini one can define the central vein with difficulty, while the yellow outside zone appears quite diffuse. The cross section of the organ appears dry and glistening and of grey yellow tint. Microscopically one can discern that the hepatic cells are filled with small glistening fat droplets and pigmentary granules, the latter lying particularly toward vena centralis. Pancreas very small and dense. The kidneys are brown-red in color, capsules easily detached. The epithelium of the straight tubules is fatty, so much so that the latter give a pale striped substance. The mucous membrane of the bladder is covered with a layer of grey-red mucous. The mucous lining of the ureters is in a normal condition. The entire pleura is smooth and glistening. The cardial sack contains no abnormal fluid. The myocardium is somewhat soft and gelatinous looking. The lungs are black-red, thoroughly pervious to air and crepitate over all upon touch. In the sub-pleural interlobular and alveolar tissues are small air vesicles (emphysema). The mucous membranes of the upper air passages are normal. Brain to all appearances normal, but the meningeal vessels are much gorged with dark blood. Pathological diagnosis: Gastritis and proctitis catarrhalis. Fatty infiltration of the liver. Chronic tubular nephritis. Emphysema pulmonum. Cataracta bilateralis."

Case No. 4.—Patient a small white male spitz, extremely fat, weight about 18 lbs., property of Frau Haymann, 23 Friedrich Street, Berlin, presented in Polyclinic for small animals, April 3, 1896, with the following history: That he caused annoyance by incontinence of urine (probably only polyuria), and was losing flesh, although he was taking great quantities of food and water. The examination revealed the presence of diabetes mellitus and poisoning was recommended, and autopsy asked for, both being refused. During the past July I sought out the owner and gained this further information: "The animal had been her property since its sixth month, and had, owing to the family habits, had but little exercise. The food used had been almost entirely cooked meats, some coffee and chocolate and other sweets in moderate (?) quantities and at irregular intervals. He had always enjoyed good health until one year ago, although a certain difficulty had been noticed in respiration, accompanied by cough, both seeming to be concomitant with an accumulation of flesh after adult life. One year ago, while in the country, he had over-exerted and became very warm, and lying in a damp cellar had contracted cold (pronounced by local talent 'distemper'), coughing was increased, wheezing, and discharge was noticed from the eyes. These symptoms in the main cleared up in a few days, but he failed in flesh, and the cough became more troublesome, and new symptoms appeared. He grew apathetic. Thirst and hunger became excessive, diarrhœa was also seen; polyuria and evident inability to retain urine beyond a very short time. Emaciation increased, and it was at this point that he was presented in the Polyclinic. From the time of his presentation he failed rapidly. While very much inclined to sleep, at no time was there a state approaching coma. Suddenly he was seized with what appeared to have been convulsions and crying loudly fell and was unable to use the posterior extremities. Although treated by a private veterinarian and somewhat relieved for a few hours, he soon began to cry again and was chloroformed without having regained the movement of the limbs, which were fully extended. He was said to be partially blind. There was no vomiting and he took food up to a very short time before death."

(*To be continued.*)

[Written specially for the American Veterinary Review.]

FOOD—ITS ECONOMY AND WASTE.

By A. S. Heath, M.D., V.S., Brooklyn, N. Y.

"The most economical food is that which is cheapest and at the same time best adapted to the wants of the eater."

This quotation is again made here to punctuate a valuable *truism*. Though we cannot breed domestic meat-producing animals without bones, yet, in the thoughtful economy of cookery, we can secure nutritious broths, or soups from the various percentages of waste of bone, gristle and fat according to the meats and vegetables used for family consumption; 8 to 10 per cent. in round of beef, 18 per cent. of a leg of mutton, 40 per cent. of chicken, and even a greater per cent. in some other meats and fish. Even these losses presuppose that all these have passed the conscientious inspection of the veterinary inspector. But for this guard against fraud, from bad quality, unhealthy or dangerous meats and fish, the percentages of losses in food values alone might have been far greater, not even calculating the dangers to health and life.

There are a few food materials that have no waste, such as milk, flour and bread; but all of these contain water to a considerable extent. Bakers' bread generally has too much water for food economy, amounting often to three times as much as the average 12 per cent. of wheat flour.

In consequence of an important matter about food—its digestibility—it is essentially necessary that our foods should be properly prepared and cooked. Of this some special consideration will be made.

The cost of bread is worth a brief notice. Bakers buy flour at about $4 per barrel. At this price for flour, bread costs about 1½ cents per pound for flour, ½ cent. for shortening and salt, and add for labor, rent, fuel, interest, etc., 1 cent, would make 3 cents, leaving 2 cents for profit for a 5 cent loaf, or 8 cents for a 10 cent loaf, when used exclusively for the family, amounts to a large item in the expenses of the family.

As the food cost of the different nationalities was given in a previous article, no further mention need be made here.

It is our purpose to show the relative values of the different cuts of the several meats in the amount of the heat and muscular power yielded per pound of the kinds of foods consumed. By this means we shall see that the cheap meats are always the most nutritious. This excludes the extravagant fashion in marketing for the family. In order to make the amount of heat force or energy plain, we state that these are developed as the food is consumed. They are measured by *calorimeter*. The *unit*—the *calorie*, is the amount of heat which will raise one pound of water four degrees of Fahrenheit.

It has been estimated that the average amount of heat and energy in a pound of the several important nutrients contained in foods are:

In 1 pound of protein, in calories,		1,860.
In 1 pound of fats,	"	4,220.
In 1 pound of carbohydrates,	"	1,860.

It has been estimated that fats give 2¼ times more heat than either of the other food elements.

Thus: 1 pound of lean meat or white of egg is fairly equivalent to a pound of sugar or starch, and that about 2¼ pounds of either of these would be required as an equivalent for fat of meat or of butter.

Now, having briefly explained the estimates of food values in calories, we compare the relative values of the several foods and their prices in the same estimates of food calories. This will show the lack of economy in family purchases because of pride or custom. We shall also show that for lack of proper cooking there is an amount of wastefulness, very difficult to compute in the families of those who do the hard work of the world at low wages:

	Calories.		Calories.
1 pound of neck of beef yields..	1,100	1 pound of salt mackerel yields..	1,860
“ “ chuck rib “ “ ..	1,320	“ “ oysters “ ..	230
“ “ rib “ “ ..	1,790	“ “ wheat flour “ ..	1,615
“ “ sirloin “ “ ..	1,210	“ “ rye “ “ ..	1,625
“ “ corn'd flank “ “ ..	1,655	“ “ buckwheat “ ..	1,605
“ “ roast should'r prk “ ..	1,680	“ “ oatmeal “ ..	1,850
“ “ fat salted “ “ ..	3,510	“ “ corn meal “ ..	1,615
“ “ pork sausage “ ..	2,065	“ “ potatoes “ ..	375
“ “ bologna sausage “ ..	1,015	“ “ sweet potatoes “ ..	530
“ “ chicken “ .	540	“ “ cabbage “ ..	155
“ “ turkey “ ..	810	“ “ apples “ ..	315
“ “ butter “ ..	3,615	“ “ granulated sugar “ ..	1,820
“ “ full cheese “ ..	2,070	“ “ molasses “ ..	1,360
“ “ codfish “ ..	310	“ “ white bread “ ..	1,280
“ “ shad “ ..	745	“ “ Boston crackers “ ..	1,895
“ “ salmon “ ..	955	“ “ beans or peas “ ..	1,600
“ “ salt herring “ ..	1,345		

For all practical purposes, the list is long enough to show the relative values of the several kinds of foods, and that most of the cheaper priced foods are really the most nutritious, and when properly cooked, the most delicious. Besides, we shall see that there is economy in family cooking as well as in purchasing. And above all other considerations, there is a beautiful moral excellence in the genuine economy of the family housekeeping that reflects infinite credit upon the noble women who worthily preside over and administer the precious economies of the family, that nursery of true manhood and loving womanhood. To give the best possible benefits to the general—universal—family economies, education is the true essential. First common school education as now taught, and to which should be added kitchen education. For no woman can preside over a house who does not understand household economies. No matter whether she presides over a palace or a poor workingman's home. For from both of these homes come the sovereign voter, and the woman who wields a vast influence for good to the family, to the community, and to the State.

At present the education of American homes is far below the standard of excellence they might and should be. If civil service examinations were extended to servants, both male and female, the services of the homes would be surprisingly better than they now are.

These matters are not out of place in a journal of comparative medicine, as comparative hygienics are intimately associated with the food of the family.

But as I purpose to write an article on the "Happy Home," I shall conclude what I have to say on food, by stating that next to self-preservation, food is the next essential demand of life.

HEREDITARY INFLUENCE.

By Dr. W. Herbert Lowe, Paterson, N. J.

A Paper read before the Veterinary Medical Association of New York County, at the Academy of Medicine, Oct. 7, 1896.

The subject that I am to deal with to-night is one of far-reaching importance, both to mankind and to the animal industry of the nation, but I am afraid that the ladies of New York have stolen some of my thunder.

One day last week, after making some notes on the subject of heredity, I picked up one of the New York dailies, in which was an account of the organization of a society for the prevention of hereditary diseases, not by a body of veterinarians nor other scientists, who peep through microscopes on the hunt for bacilli. Far from it. The members of this new society are young and marriageable women, who solemnly promise not to become the wives of men who have any hereditary taint. The fact that a man is rich will make no difference whatever, or that he has curly hair or a "love of a mustache." He may go on his knees in supplication, but they will be inexorable and their hearts will be as hard as Bessemer steel. The object and purposes of these young ladies is highly commendable, and will certainly be of incalculable benefit to this and succeeding generations. If they propose to control and straighten out the undesirable love affairs of the world they have a very large contract on hand.

While marriages of persons affected with hereditary diseases are as a rule beyond control in the human family, and while any legislation by the state would be considered as interfering with personal rights, yet with the lower animals the state can exercise the right of eminent domain and deal with disease as may prove to be for the common good.

It is not my purpose during the short time that I shall occupy your attention to give an extended treatise on the various laws governing the transmission of hereditary qualities and characteristics from parent to offspring, which facts are well known to the representative body of scientific veterinarians that I have the distinguished honor to address to-night, but rather to show how by a practical application of these laws, strong, healthy animals with stamina and constitution can be bred that will possess a decided disease-resisting power or immunity. Heredity plays an important part in predisposition and in immunity.

It is well-known what the trotting-horse breeders of this country have accomplished in breeding for speed. It is equally well known what the breeders of the various breeds of cattle have accomplished when breeding for special purposes. Much has also been accomplished in the same way with the dog and other domestic animals. I am sorry to observe, however, that in not a few instances these results have been obtained at the expense of substance and stamina. In the case of horses, many faulty conformations of body and limb are transmitted that predispose to disease and lameness, as the animal reaches maturity and is put to work or in training. Many so called excellently bred young horses with fine pedigrees are sold every spring and fall in the great sales at the Madison Square Garden and elsewhere in this city that inherit some defective conformation or predisposition to weakness, lameness and so on, which will be developed when the exciting cause makes its appearance. Breeders of pedigreed horses are well aware of this fact and do not wait for the unsoundness to develop, but rush them to the sales referred to.

In this connection I wish to emphasize the fact that many diseases are to be classified as hereditary when in reality it is the predisposition that is hereditary, which may be a peculiar diathesis, but it will be found upon close study and observation to be due to defective or faulty conformation of body and limb.

Every kind of unsoundness, especially those which are of a constitutional character, as well as defective conformation of body and limb and faulty action, should be excluded by the breeder. It is only by a systematic method of exclusion and careful selection that the best results can be reached.

Stallions that have been excluded from European show yards on account of some constitutional or hereditary unsoundness have been known to have been imported into this country and exhibited here and even placed on the prize list.

I mention this to show the importance of proper veterinary inspection of horses before being eligible to receive any prize. A system of veterinary inspection at horse shows and state fairs would prove of distinct and far-reaching value to the horse-breeding industry of the United States.

What the trotting-horse breeders of this country have accomplished is the wonder and astonishment of the world, but in their enthusiasm to produce speed they have followed in many instances pedigrees without regard to stamina and hereditary disease, and consequently we see many beautiful young colts breaking down in training. If breeders would only be as careful to exclude pathological defects and faulty conformation as they are to secure choice strains of blood, there would soon be great improvement in quality and stamina, that would be of lasting benefit in the equine race. Stallions should be examined as to soundness, taking into consideration ancestral hereditary conditions. If stallions were required to have a license, those calculated to deteriorate the breed could be excluded from stud purposes.

We all know that in time of war a city that is not properly fortified is easily taken by the enemy. So, the animal body, if not fortified with a strong constitution and stamina, will be readily invaded by the micro-organisms of infection. The proper pabulum or soil for the development of microbes is only second in importance to the microbe itself. All persons exposed to infection of tuberculosis, small-pox, or scarlet fever, do not take the disease because all are not alike susceptible. All men that eat the flesh or drink the milk of tuberculous cows do not contract tuberculosis. Whatever in any degree weakens or impairs the system of men or animals renders them more liable to the invasion of disease. The animal that inherits a strong, untainted constitution and good health from its progenitors possesses a disease-resisting power that often means an immunity. If this principle of heredity was kept in mind in breeding dairy cattle there would not be so much tuberculosis. Environment, sanitary conditions, climate and food have of course all more or less to do with development of tuberculosis, but on this occasion we will confine ourselves to the hereditary transmission of weak and impaired animal bodies from sire and dam to offspring which are evidently more susceptible to tuberculosis than animals that have inherited plenty of substance and stamina. To this phase of the subject I attach a great deal of importance, for I believe that it is only by a system of breeding, founded on a scientific knowledge of the laws governing heredity, that tuberculosis will be eradicated. The fact that tuberculosis is caused by the tubercle bacillus and is therefore not hereditary does not lessen the importance of breeding dairy cattle having substance and stamina sufficient to resist the development of the micro-organism.

The etiology, diagnosis and pathology of bovine tuberculosis are now well understood by the profession, but when we come to take steps to eradicate the disease economic limitations and other questions arise. Dr. Salmon, the able Chief of the United States Bureau of Animal Industry, estimates that to make one inspection and test all the cattle, killing affected animals, would in the State of Pennsylvania alone cost over five million dollars. He suggests a more conservative and less expensive method by co-operation between the farmer and the properly constituted State authorities. Whether the so-called radical method or Dr. Salmon's more conservative method of stamping out the disease be adopted, a new crop of the disease would soon again appear which would necessitate another inspection and further expenditure of money unless something further is done than destroying affected animals and adopting sanitary measures. What is the practical use of destroying the animals now affected in a given state if we are at the same time breeding and raising young cattle, which when they are developed and forced to their full milking capacity will not be able to resist the dreaded micro-organism?

In the eradication of bovine tuberculosis the question of property, animal and human life are all at stake, and if the desired result can be accomplished more readily and more completely by a practical application of the laws governing the transmission of hereditary qualities and characteristics, we are certainly taking an important step in advance. The work of extermination in various localities and states has been well done, and the sanitary regulations adopted effective, but I would go still farther and breed dairy cattle that would inherit such constitution, stamina and vigor as to have a practical immunity from an invasion of the bacilli of tuberculosis when exposed to the germs. If some steps are not taken in this direction we will find that in the course of a few years another crusade against the disease will have to be waged at great cost to dairymen, farmers and the State. The remedy is in our hands if we only apply it. In the first place it will be necessary for the breeders of dairy cattle to understand the importance and value of this phase of the subject, and that the remedy is at hand, if they will recollect that "like begets like," and breed only from the class of animals already alluded to.

I have made this subject a matter of close observation and study among native and imported cattle for several years.

During the two administrations that I had the honor of representing the United States Government as the veterinary officer of this great port of New York I had an opportunity of seeing and watching almost every known breed of cattle now extant in the civilized world. All importations from foreign lands were held in quarantine under our Federal law for a period of ninety days, during which time they were under close observation. Change of climate affected some breeds more than others, and, other things being equal, those of a delicate constitution and stamina were most affected by the changes, climate, food and environment. We, of course, admitted no tuberculosis nor other contagious disease, but some breeds, as for instance the Normandy, were of good constitution, stamina and disease-resisting power, while others, as some strains of the Jerseys, were very fine and delicate, and to my mind it would be only necessary to introduce the germ of tuberculosis to have the disease developed and established in the system.

INDIGESTION OR DYSPEPSIA.

By William Gall, V.S., Mattawan, N. J.

A Paper read before the Veterinary Medical Association of New Jersey.

Definition.—A functional derangement of the stomach without any appreciable lesion of inflammation.

Etiology.—Predisposing and exciting. Predisposing causes: Close, unhealthy, ill-drained, ill-ventilated stables, atmosphere of some factories, hereditary or other constitutional defects, influence of atmosphere of particular climates and localities, exposure to unhealthy exhalations, impure water, and water impregnated with mineral salts. Exciting causes: Irregularities of diet, indigestible food, cooked food, imperfect mastication, long fasting, exhaustion, sudden change of feed, too much feed given at one time, certain descriptions of feed (as wheat, barley, corn meal, musty oats, bran, and green-food when eaten immoderately). In young animals when they are allowed to suckle the dam when she is heated. Sharp and projecting teeth are probably the principal causes of indigestion. In many of our large stables it is due to the irregular manner in which horses are fed and watered. Many of these horses, coming in at night heated and tired, it is unsafe to allow them as much water as they can drink. On coming in they are usually allowed a few mouthfuls of water and then rubbed down; then they are taken to the watering-trough and allowed a little more, and then put in their stalls, where their feed is lying waiting them. Fed again in the morning between four and five, and watered after feeding on their way to the wagon; are fed again any time betweeen twelve and two, being allowed one hour for dinner; fed first and again watered after feeding, and immediately returned to work. This is a complete reversion of what is known to be the proper way of feeding. City horses suffer more severely from indigestion during the hot months of summer. This is due to the fact that many of these animals come in in the evening completely exhausted and overheated, the alimentary tract and nervous system sharing largely in the general debilitated condition of the entire economy of the animal. Animals again insufficiently watered, their stomachs more in need of a rest than of work, have the same amount of feed to contend with as if in a normal condition—feed that the animal would probably not have looked at but for the stimulus given to the stomach by the few mouthfuls of water which the animal has been allowed to swallow. The stomach, already in a debilitated condition, the glandular structures not performing their proper secretory function, and the lack of termination to the capillaries and blood vessels of the walls of the stomach consequent upon the impaired vitality and depressed condition of the nervous system in general, the processes of gastric digestion are carried on very slowly and imperfectly, and should the animal slip his halter and get at the watering-trough the consequences are apt to be disastrous. The suffering of the animal during the hot season of the year is greatly augmented by the intense heat and the vitiated condition of the stable atmosphere dependant upon animal exhalations. Hardly has the stomach had time to get rid of its encumbrance than the morning feed is deposited in front of him, and, having eaten this, he then takes as much water as he can drink on the way to the wagon, thereby diluting whatever amount of gastric juice may have been secreted by the already overtaxed stomach, and to climax this a hard day's work ensues. This continues till sooner or later the walls of the stomach become weakened, and rupture of the stomach ensues as a sequel to an attack of acute indigestion.

Simple Indigestion.—Symptoms : Animal falls off in condition, tongue coated, breath slightly sour, hidebound, slight but frequent attacks of colic, bowels irregular, depressed appetite, licks the walls; pulse somewhat weak; liver probably involved; this is indicated by yellowness of the visible mucous membranes. If due to over acidity of the stomach, lime water, sodium, and other alkalies. If the liver is implicated give aloes and calomel, follow up with such tonics as quinine, gentian, quassia, and iron; if the animal is weak and debilitated give ale, beer, wine, and whisky. Groom the horse well, and give regular exercise. In all cases of flatulent colic or any form of indigestion it is well to make a particular examination of the teeth.

Acute Indigestion.—This is a very common as well as a very fatal disease. Often considerable distention is observed, which may be due to the presence of large quantities of food, or it may be caused by gas in the stomach and intestines, the gases formed being sulphuretted hydrogen, carburetted hydrogen, and carbonic acid gas. Rupture of the stomach occasionally occurs. In other cases the stomach and bowels become so distended that the movements of the diaphragm are interfered with, and the animal dies of asphyxia. The causes have already been mentioned in the beginning of this essay.

Symptoms of Acute Indigestion.—The animal becomes somewhat dull and sluggish in his movements; soon he shows a slight uneasiness, turns his head to one side and seems to be in slight pain. Swelling of the abdomen becomes apparent, the animal's pain increases, he begins to toss about, rolls from side to side, and endeavors to balance on his back. When lying down he occasionally raises his head and looks toward his flank. As a rule the abdomen is greatly distended and there are eructations of gas. Regurgitations of food may also be noticed. In some cases sweats bedew the body; there may be slight diarrhœa; he rolls and tumbles about in a violent manner. The pulse at first is full, but gradually becomes weak and quick. In the early stages the mouth is hot, then becomes cold and clammy, the limbs lose their natural heat and become cold; sweats break out; the animal walks about in a semi-unconscious condition, occasionally staggering or reeling slightly, may fall back on his haunches, and finally falls to the ground, makes a few convulsive struggles and dies.

Treatment.—Should be prompt and energetic. Give the following:

℞ Olei lini, Oj.
Spiritus chloroformi,
Spiritus terebinthinæ, āā ℥ I.
Acidi carbolici, ʒ ss.
Mix. Sig. Give at once and repeat in half an hour if animal is no better.

The following can also be given:

℞ Olei lini,
Ætheris sulphurici,
Spiritus terebinthinæ, āā ℥ iss.
Tincturæ nucis vomicæ, ℥ ss or ℥ j.
Mix. Sig. Give at once.

Empty the rectum with the hand and give an enema of

Spiritus terebinthinæ,
Tincturae asafoetida, āā ℥ I.
Glycerini, ℥ iv.
Soap suds, Oii.

Give hypodermically:

℞ Eserinae salycilat., grs. iss.
Pilocarpine muriat., grs. iii.
Aquæ, q.s.

When relief is obtained and improvement in the condition of the animal is manifest, medicinal agents should not be pushed too far: the animal should be comfortably clothed so as to preserve the surface temperature and prevent cold sweats. If sweats break out the patient should be carefully guarded from draughts of cold air. In cases of great distention the animal must be kept from throwing himself violently about, as rupture of the stomach or bowels might occur in consequence of a very violent movement on the part of the animal, and a purgative should never be omitted, as it is probable that purgatives relieve spasm and pain before developing any of their physiological actions.

Chronic Indigestion will ensue upon neglected simple indigestion or by feeding for a long time on large quantities of oats, irregular feeding, etc. The stomach is overtaxed and finally fails, which is commonly associated with functional derangement of the liver.

Symptoms.—Dull, languid, sweats easily, coat dry and dusty, slight attacks of colic, diarrhœa, followed by constipation, fæces either dark or very light in color, well marked yellowness of the visible mucous membranes, appetite capricious and depraved. This form of indigestion is often due to an insufficient supply of sodium chloride.

Treatment.—Give a physic; animal should always be well prepared with bran mashes before administering the physic; physic should be composed of aloin and ginger if the liver is affected, to be followed by carminatives and tonics at the proper time. Rock salt should be present in the animal's manger. If gastritis is present drastic purgatives are inadmissible; oil is preferable. The free use of whisky is indicated when the brain is affected, and other diffusible stimulants. The body should be well clothed and the extremities bandaged. Animal should be put in a box stall and allowed plenty of fresh air, easily digested food and good grooming.

Indigestion with Impaction is most likely to occur in old horses and in horses that are fed and watered after the manner described in the beginning of this essay. Sudden changes of food, feeding animal largely when much fatigued, over-ripe grasses and buckwheat.

Symptoms. — Tucked-up appearance of abdomen; well-marked symptoms of derangement produce delirium and sometimes coma and paralysis; animal staggers round the stall; after a time a typanitic condition, which may be regarded as a very bad symptom; animal dull and drowsy and without appetite. Although a well-marked case of impaction of the stomach may occur without the generation of gas, the animal paws and rolls, but not so violently as in spasmodic colic; turns his head towards one side, pointing towards the sternal region, pulse becomes somewhat quicker, and unless relieved death soon occurs.

Treatment.—A powerful diffusible stimulant should be given first, and followed by a purgative in combination with nux vomica, the latter being especially beneficial in cases where symptoms of nervous depression are manifested.

TETANUS.

By W. H. Lawes, Jr., D.V.S., Red Bank, N. J.

A Paper read before the Veterinary Medical Association of New Jersey, Oct. 8, 1896.

The subject of this paper is a common but too often fatal disease among our equine species.

Tetanus is not a blood disease, as was once supposed; neither is it a functional disorder of the nervous system. It is caused by an anærobic bristle-shaped microbe (the bacillus of Nicholaier), which is found in many soils, barn-yard manure, and partly-masticated food. It is more prevalent in hot climates than cold, but is seen in most all climates. It is inoculable from animal to animal, when brought into contact, especially if a part be injured. This microbe once entered into the system, produces a toxine which acts like strychnine on the spinal cord, followed by the tonic muscular spasms.

The period of incubation is sometimes as short as twenty-four hours, but generally from eight to fourteen days.

Horses and sheep are most susceptible, cattle and swine less so, and dogs are resistant. Predisposing causes are wounds of any kind, but especially those of the feet, and often following the operations of castration and docking the tail.

On July 22d I was called to see a bay horse used for carting purposes, supposed to be suffering from some affection of the eyes, which the owner had been treating for two days with warm water, but did not improve with the treatment. I had the horse led out, made my examination, and found that he was suffering from tetanus, which was a great surprise to the owner. Upon inquiry into the history of the case, about three weeks previous he had a nail in his off hind foot, which was pulled out and the horse went on to work without any difficulty. But, however, this was the cause (traumatism). Having the horse walked, stiffness was well marked, both in front and behind; the tail was slightly elevated and stiff; also the ears were very stiff. The membrana nictitans were withdrawn from their sockets, more so on the left than the right eye. Swallowing impaired, as he ate and drank very slowly; respiration slightly accelerated, pulse and temperature normal.

He remained in about this condition from the day I saw him until the eleventh day, when the spasms became very violent, lasting until the thirteenth day, when they began to subside. From this on he steadily improved, making a good recovery in six weeks, and is now at his usual work. The jaws were not locked at any time during the attack, nor did I have any trouble with the bowels being constipated. I had the horse removed to a roomy box stall, where it was quiet and away from the rest of the horses. I then left orders to let no one go near him except the owner. I restricted his diet to easily digestible soft food, beans and boiled oats in a mash, and left a pail of water in the stall continually. With difficulty I gave him seven drachms of Barbadoes aloes in one pint of warm water (from which there was no action). I then decided to give him fluid extract of cannabis indica in drachm doses, three times a day, given with a syringe, and thirty-grain doses of potassium bromide in solution, given the same way.

Through the kindness of Dr. Gall, I am able to describe briefly the treatment of hypodermic injections of antitoxine serum, which he has used with success. The antitoxine is in the form of a powder, and is put up in 25 c.c. bottles, each containing three grammes of dry concentrated serum. To prepare the serum for an injection the bottle must be filled with sterilized water, recently boiled, and allowed to cool, then shake thoroughly until the contents are completely dissolved. It will be found convenient to hasten dissolution by stirring the mixture with a probe previously passed through the flame of an alcohol lamp to sterilize it. It is then cooled. The site of injection preferred is the side of the neck. This must be carefully clipped and disinfected with a 4 per cent. solution of carbolic acid, care being taken, as in all injections, to have the syringe and needle perfectly sterilized. The amount of antitoxine to be injected is three grammes of dry serum, each bottle containing this amount. After the injection the animal should be watched for twenty-four hours, and if the patient is steadily improving it may not be necessary to inject any more serum, otherwise the treatment should be resumed. It is very important to begin the injections as early in the disease as possible, the success of the treatment depending almost entirely upon that condition. If there is any apparent wound this should be treated with the following solution: Iodine, 1 part; potassium iodide, 2 parts; distilled water, 100 parts. This should be used repeatedly.

In this month's number of the AMERICAN VETERINARY REVIEW, Dr. M. J. Jones, of Cuba, Ohio, speaks very highly of the use of hyposulphite of soda in tetanus, claiming that he has cured 23 cases out of 34.

REPORTS OF CASES.

LATERAL CURVATURE OF THE SPINE AND VENTRAL HERNIA IN A FŒTAL CALF.

By W. J. MARTIN, V.S., Kankakee, Ill.

On the morning of Aug. 24, 1896, I received a message from an adjoining town to come and take a calf from a cow. On arriving at the place, I found the patient, a large animal of the Holstein breed, lying at full length upon her left side, in a semi-comatose state of exhaustion from previous labor pains, which were now recurring at long intervals of time and very weak at that. The nose of the fœtus, together with three limbs, protruded from the vulva.

On inquiring into the history of the case, I was informed that the cow had been in labor since the previous morning, and that several of the neighboring farmers had vainly tried to remove the calf. The vulva being much swollen, it was bathed with tepid carbolized water and a copious amount of the same fluid was injected into the vagina and uterus. On passing my hand into the vagina, I found that two of the protruding limbs were the front ones, while the other proved to be the right hind limb. The head occupied so much space in the vaginal canal, that manipulation was performed with the utmost difficulty; it required the most strenuous effort on my part to reach as far as the calf's eyes, and owing to the somewhat abrupt formation of the frontal bones, hydrocephalus was at first suspected. The cow being much exhausted by her expulsive efforts while I was making this examination, suddenly ceased straining, which permitted the hand to be carried upward as far as the calf's occiput; the head was then found to be normal.

It was now decided that the case was one in which the hind limb not presenting, had become jammed against the brim of the mother's pelvis and the fœtal body had thus become, as it were, immovably wedged in the vaginal canal. It was now decided to use gentle traction on the calf's head for the purpose of drawing its body out as far as possible, in order to resect it at or as near as possible to the shoulder, and thus be able to perform version by returning the anterior position of the body and deliver the calf by its posterior extremities. A rope being placed over the calf's head, two men were told to pull gently on it, while I endeavored to return the protruding hind limb back into the uterine cavity. While thus engaged, I felt the body of the calf move forward by the force exerted by the men pulling. Seeing that an easy delivery could be made in this way, I at once told the men to pull hard, and the calf, together with the fœtal membranes, easily came away. The fœtus was indeed a curious looking object.

The head and front part of the body was normal, but beginning at the first lumbar vertebra, the spinal column made a sharp curve to the left side of the body, so much so, that the posterior part of the body lay in close juxtaposition to the side of the anterior part. The hind limbs presented their posterior surfaces forwards. The right hind limb, the one which presented, lay close up between the left front leg and the sternum. The left hind limb lay along the abdomen and slightly inclined to the right side of the body. The right hind limb was abnormally large, being at least twice as large as a normal limb; the left one being much atrophied was about half the size of a normal limb, which accounted for its absence in the presentation. In the right side of the calf, behind the last rib and nearly on a line with the stifle joint, was an opening about four inches in height and about six inches in length, through which the entire visceral contents of the abdomen had escaped, and lay outside of the calf's body among the fœtal membranes. The opening through which the intestines had come, had at some previous time been much larger, as quite an area of cicatrization was visible on the surrounding skin. The intestines were small and ill developed, their structural tissues being extremely delicate in texture and of a pale red color. They contained a small amount of meconium. The skin and hair over the entire body was fully developed, as was the posterior part of the body, with the exception of the legs. The calf was a female and all the organs of generation were fully developed and occupied their normal position within the body.

The owner stated that about ten days previous to her time of calving, the cow had jumped astride of a fence and alighted upon her abdomen ; he thought that the malformation of the calf was due to this accident. The undeveloped condition of the intestines and the left hind limb, would preclude any such theory. Again, if the calf's spine had been thus violently injured *in utero*, death would undoubtedly have occurred. On the contrary, the calf was without doubt alive at the time parturition began. The bones of the spinal column were also firmly united by anchylosis, which goes to show that the case was one of arrested development, due, without doubt, to the position assumed by the fœtus in the womb. The cow recovered completely.

POISONING BY LOCO WEED.

By Coleman Nockolds, M.D.,V.S., Cadillac, Mich.

During the year 1892 I took the opportunity and went with a friend who was going to take his herd of about three hundred half-breed mares, geldings, colts and young mules from southern Texas to the plains in northwestern Texas for the summer grazing. We started during April. The animals with the exception of the colts were all rather thin, having had but scanty grazing during the winter, and once they were up to where the grazing was good lost no time in making up for their short rations during the past winter. In that particular section of country we noticed quite a quantity of that little weed growing amongst the grass, which the cowboys and Mexicans call loco (Loco : Mexican meaning crazy), a little plant growing from six to eighteen inches in height, with pale green hairy leaves.

and bearing a white or yellow blossom. As the animals did not eat the loco and there was plenty of grass and water in that vicinity we did not think there was any necessity of moving them. It was about two months after that we noticed some of the mares were not doing as well as the others and upon close observation we noticed that they were eating the loco weed. About this time we had quite a long spell of dry weather and the grass dwindled, but the loco seemed to thrive if anything better than ever. One mare in the herd seemed to be affected more than the others. She would stray away from the bunch at every opportunity and eat every bit of loco she could find, and would hardly touch grass at all. When one tried to drive her into the herd she would try and run off in an opposite direction and even run headlong into the horse the herder was riding. There was a glassy, vacant look about the eyes; animal very emaciated; head outstretched, as if animal was suffering from a sore throat; coat staring, and when trotting would lift all four feet unnaturally high, and if crowded would fall headlong. Animal seemed to imagine little sticks lying on the ground were high fences, over which she would jump, and that little hollows were wide ditches. I noticed all the animals affected were constipated, fæces covered with mucous. Some showed signs of being affected only when excited or warmed up with exercise. I have seen old saddle ponies that are locoed affected in various ways—one in particular that the cowboys had to throw and tie down to saddle, but as soon as a person was on his back he would behave as if nothing was wrong. The cowboys claim that most horses affected show violent symptoms only when excited or warmed up. In some instances where the sight is affected I have seen horses run head first into a brick wall or rail fence. We started home with the herd in October, leaving six behind us dead from the effects of the loco weed, and we had a great deal of trouble in keeping about eighteen affected animals up with the rest of the herd. Every horse that had eaten the weed to any extent died before that winter was over. In the bunch that I have mentioned all the animals that were locoed were mares over six years of age. The colts, geldings, and mules showed no symptoms of the weed at all. There were twenty-three deaths from eating loco out of a herd of three hundred in something under a year.

I feel confident that loco is a narcotic poison, but what the actual properties of the weed are I do not know. People living in a "loco" country say change of pasture is a cure, but I may state that in my experience I have found that once an animal is affected by loco to a certain point changing food does no good. I have tried no other treatment.

MISSED LABOR—MALPRESENTATION—CÆSARIAN SECTION—RECOVERY.

By T. B. ROGERS, D.V.S., Woodsburg, N. J.

On June 20th, 1896, I was called to attend a young Holstein cow in labor, with the history that this cow was last served by the bull thirteen months ago. At the end of the normal period of gestation she made bag, fell in behind and presented the usual preliminary phenomena of labor. These symptoms passed off and the uterus remained quiescent until the night of June 19th, when active labor commenced. The calf was in the dorso-ventral position, the back of the calf downward, head and neck turned back and two front legs presenting. After numerous fruitless efforts to rectify the position, I removed the anterior extremities and endeavored to bring up the head, but was at no time able to touch it. I then eviscerated the calf, fixed a blunt hook in the lumbar region, and tried to pull the fœtus far enough back to let me get the head, but these, like the prior efforts, were entirely futile. The cow became somewhat exhausted, and I finally obtained the owner's consent to perform laparotomy. The cow was cast on the near side, and through an incision a foot long the uterus was exposed and brought up. An incision in the right horn enabled me to get the hind extremities, and the calf was removed by several strong assistants, who were instructed to pull *directly upward*. No uterine *débris* escaped into the peritoneal cavity. The uterus was first sutured by interrupted sutures, the long cut end being left free in the cavity, and the peritoneal coat was then sutured over these by an uninterrupted over-and-over suture of silk. The peritoneum was approximated by interrupted silk sutures and the musculature and skin by interrupted sutures of heavy linen thread (the only available material). A heavy coat of tar was then placed on the wound track. The patient manifested no symptoms of shock or collapse, and her convalescence has been uninterrupted. The wound healed well, and at no time was there anorexia or even suppression of the lacteal secretion. The medical treatment consisted of spiritus ætheris nitrosi with acetanilid; and, except its daily coating of tar, the wound received and required no attention. The calf weighed over 100 lbs. and when stretched out measured over six feet in length.

A MONSTROSITY.

By A. W. YOUNG, V.S., Chesterville, Ohio.

Mr. M—— noticed his cow in labor, about 5 o'clock on the morning of June 30; he and his hired hand went to her assistance, but could do nothing. She was given little attention during the day and at midnight I was called. Examination revealed two hind limbs protruding from the vulva and two other hind limbs in the vagina. I supposed that it was a plain case of twins, but what seemed strange was that in both, there was a breech presentation. Further examination, showed a freak of nature such as I had never met before. The fœtus was dead and the owner wanted the cow saved. I performed partial embryotomy, removing hind limbs and viscera, after which traction was applied and balance of fœtus removed. Found the fœtus to be double in every respect and perfectly developed. None of the organs were larger nor smaller than usual, in twins. The heads and necks were separate but the bodies were enveloped in one skin. The entire osseous system was double as was also the viscera and all internal organs. They were male and female. Have any of the readers of the REVIEW found anything like the above?

TETANUS—ANTI-TOXINE—DEATH.

By OSCAR FAUSNER, D.V.S., New York City.

Aug. 18th was called to see large chestnut mare, six years of age, history very brief, groom stated the mare refuses to eat, and drinks about half pailful per day, and takes very long to drink that amount, also coughs. Examined carefully; head slightly extended, temperature 103° F., pulse full and strong, very sensitive over the larynx and pharynx, slight discharge from the nostrils, no other symptoms visible. Proper treatment was prescribed, and would call in the morning.

19th, I found a great change, temperature 101° F., pulse full and strong, head extended, stiff gait, very anxious expression. I questioned groom if mare was hurt in any way or picked up a nail, etc. After considerable talking, finally said mare did pick up a nail, but that the blacksmith attended to that. Had shoe removed at once and sole pared, puncture was at the point of frog. It was filled with tar and oakum. When removed quite some pus escaped; was treated antiseptically and small piece of bandage put over puncture and hot poultice applied. Owner asked what were the chances of recovery. I said doubtful. This mare was a favorite, so I suggested to try the antitoxine treatment. Injection was given at 4 P.M.

20th, animal very nervous, head extended, all the muscles of the cervical region swollen, jaws set, refusing to take any liquid food; temperature 101° F.; pulse strong and full; abdominal respiration; not able to move; if excited would stagger and raise head.

21st, no change for the better, animal in bad state, head greatly extended; temperature 105° F.; pulse weak; abdominal respiration; very anxious expression; could not move; muscles of cervical region swollen and rigid; discharge from the nostrils; eyes staring and glassy appearance. I advised owner to destroy, and pitied the animal, as I thought it my duty to relieve her from so great suffering.

Treatment was as follows: Removed to box stall, darkened so no sunlight was visible, wound cleansed thoroughly and creoline solution injected well; the hot poultice applied as often as necessary; strychnine was given, half grain to ounce, three times per day. Oatmeal water and anything animal would eat, viz., bruised oats, etc. I certainly would have continued the antitoxine treatment, but animal was suffering greatly and thought best to destroy.

QUICK RECOVERY FROM RUPTURE OF FLEXOR METATARSI.

By Francis Abele, V.S., Quincy, Mass.

Was called at 6 A. M. to see a horse with broken leg. "Come prepared to kill it." She was bright, did not seem to have severe pain; had been cast and had kicked end of box stall out. When I attempted to move her, she used the leg, but knuckled over so far that she walked on wall of toe; it seemed, in fact, almost on front fetlock. From hock, leg would dangle; hamstring (gastrocnemius) was loose or wrinkled. Diagnosed ruptured flexor metatarsi. Next day swelling on inside of hock showed plainly, loose and flabby. In three weeks led it out to see what progress was made. Lameness hardly perceptible. She reared, kicked and cavorted, but leg was strong enough to stand it all.

VIVISECTION OUTDONE—A PECULIAR CASE.

By Francis Abele, V.S., Quincy, Mass.

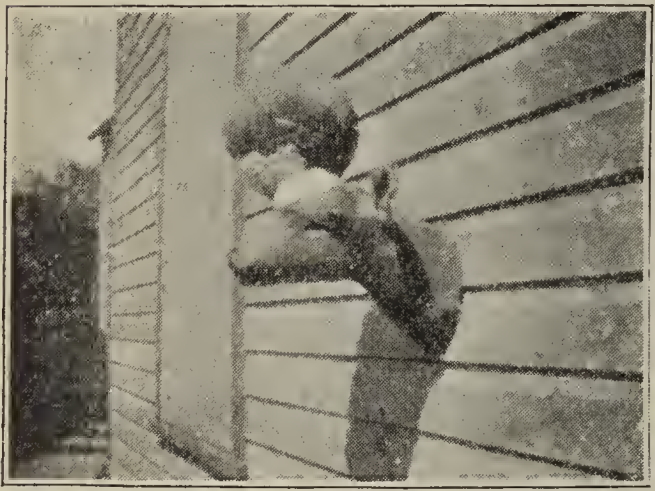
I was called to an aged pet cat that was troubled with purging and vomiting, due to lapping insect powder from its fur. Gave syrup of buckthorn, which brought speedy relief, only to be followed by another attack from the same cause. Ordered her washed, and gave enema of two quarts of warm water and soap with glycerine added, with a fountain syringe.

Now, to my surprise, the cat strained and vomited—soap-water, clean and clear, save two tapeworms about eight inches long each.

The wonder to me was not the fact of the tapeworms, nor the clear water, but that I had forced a passage completely through the cat. I have often laughed when people would say: "Why, doctor, if you pump in any more it will have to come out from the mouth."

Why could I not have used plaster of paris solution, and now have a preserved specimen of stomach and intestines in their proper positions?

CONGENITAL HYDROCEPHALUS.



The accompanying illustration is that of a calf with congenital hydrocephalus, occurring in the practice of Dr. William P. Stranghan, of Stamford, N. Y., which the doctor mounted, photographed and very thoughtfully sent to the REVIEW. From its apparent size, he was very fortunate in extracting it in its entirety.

SUPERVISION OF MILK SUPPLY.

REPORT OF THE VETERINARY INSPECTOR OF THE CITY OF WATERTOWN, N. Y.

Dr. Jno. A. Bell, County Secretary for Jefferson County of the New York State Veterinary Medical Society, made the following very full and careful report to his Society at its late annual meeting in Buffalo, and we reproduce it this month *in extenso* on account of its many excellencies and as an example to other cities:

Mr. President and Gentlemen:

As committeeman for Jefferson County, New York, I am pleased to inform you that I live in a section of the country so far north that we are nearly free from contagious diseases.

During the year 1895 we had three small outbreaks of anthrax in cattle, from which 15 cows died, but so far this year, 1896, we have been entirely free from the disease.

Regarding tuberculosis and the work done in that line in my section of the country I concluded to give you a synopsis of the workings of our board of health and the regulations governing the sale of milk, hoping it will be of interest to some of you.

MILK SUPERVISION BY THE BOARD OF HEALTH OF WATERTOWN, NEW YORK.

Inception of the System.—Watertown is a city of 22,000 people, situated in Black River valley, ten miles from Lake Ontario, and 25 miles from St. Lawrence River, in one of the best and most healthful dairying sections of the State. The climate in summer is mild, in winter severe, the thermometer falling sometimes to 15 degrees below and occasionally to 25 degrees below zero.

In 1893, to preserve the cleanliness and purity of the milk, eliminate diseased cows, and known impure and foul odors, the city board of health appointed me a veterinary inspector to supervise and inspect the supplying dairies and the vending of the milk to customers.

The effect was largely experimental. There were then no regulations governing the supervision, and in consequence it had but little effect among the dairymen.

The result was mainly instructive to the board in formulating the methods and supplying the remedies provided by the present system. In February, 1895, after a three months careful study of the different features of the matter, with the aid of leading dairymen and milk experts of the county, the board adopted the present regulations, which went into effect May 1, 1895; and appointed me its veterinary inspector.

The System.—The regulations treat the subject of supervision under three heads: Duties of vendors, duties of producers, and duties of the veterinary inspector.

Duties of Vendors.—The vendor must obtain a license to sell, and the dairy must be examined and comply with the regulations before the license is issued. The license bears a serial number, which, with the word "licensed" and the year, appear on each side of his wagon on plates furnished by the board; for example, "12, Licensed, 1896." The license expires and must be renewed on the first day of each year. Renewals are governed by the same rules as new licenses. He must notify the health officer of the city of all cases of fever and contagious disease in his family and in those families where his milk is produced or cans washed, at once as they occur; and report on the first of each month to the inspector on blanks furnished by the board, all such cases of sickness, whether he gave such notice to the health officer, what "regular" and what "emergency" dairies he sold from, and the number of cows added to the regular dairies during the month. The regulations are posted in all the dairy barns. The sale of milk at stores and stands must be under a permit naming the vendor furnishing it. Cans must be washed without soap, salt being recommended; the last application of water being to scald with boiling water.

Duties of Producers.—Stables must be well ventilated with air shafts from near the floor to the roof as foul air outlets, well lighted and aired, kept whitewashed, clean and dry, with trenches behind the cattle at least eight inches deep to receive the excrement, milkers to use no moisture on hands or teats while milking, dirt carefully removed from the body of the cow before milking.

All milk must be thoroughly and slowly aerated in pure air by its exposure thereto in small particles at a time, without ice or cold water, as soon as it comes from the cow and before cooling.

In no case shall milk stand or be aerated in the stable, or in any building or place affected by stable or other foul or impure odors or air.

The erection of small separate buildings for aerating in places surrounded with pure air is recommended. Cows must be fed on wholesome food and pure water, and be kept well cleaned. Milk must not be sold from any diseased cow.

Duties of Veterinary Inspector.—He is charged with the enforcement of the regulations. He must make two general inspections a year of all dairies and their surroundings, examining cattle as to health; cans, cattle and stables as to care; and special inspections where and as need be. He examines dairies for and issues the licenses, and keeps the records belonging to the system, supervises the examination of the milk, reports monthly to the board upon all matters during the month and makes an annual report at the end of the year.

Any violation of the regulations is a misdemeanor punishable as such. The board may also punish violations by revoking the license. The entire expense of the system is borne by the city, there being no law by which the milkmen can be made to share it.

Results of the System.—The adoption and operation of the system first met the determined opposition of some of the milkmen, a few were in favor and many were indifferent or sympathized with the opposition. Petitions were made and hearings had for its abandonment, as unnecessary, without precedent anywhere else, an innovation and wrongful interference with private rights; that from experience and interest they were better fitted than the board to look after such matters. Opposition has now ceased and all have given it their willing and hearty support.

We believe we are among the pioneers in supervising the sources of the public milk supply and that, from our own experience, such supervision is of the highest importance from a sanitary point of view.

After the system had been in operation a little more than one year, stables that were dark, ill ventilated, covered with cobwebs and dirt, had poor or flat floors, without sufficient drop or trench to receive the excrement, had been given light, ventilation, cleanliness, new floors with sufficient drop to keep the cattle clean, have been whitewashed, bedded and received better care generally; cattle better cared for and cleaned; the milk which was often allowed to stand in the stable over night and not aerated at all, is now all properly aerated and kept entirely separate from the stables and stable odors.

The publication of reports of the condition of stables, and care of dairies and milk, makes it necessary for the careless dealers to emulate the careful ones in order to hold their customers. About fifty dairies, numbering about 1,000 cows, supply the city with milk and cream.

The following improvements are taken from my annual report made January 1, 1896, after the system had been in operation eight months:

Stables whitewashed, 22; stables given better light, 18; stables given better ventilation, 17; stables given new floors, 11; stables given new ceilings, 7; stables given new linings, 2; new stables, 2; new aerating buildings, 8; all milk properly aerated in separate buildings.

Tuberculosis.—In 1895 the board made a bacteriological examination of the entire milk supply and discovered the presence of tuberculosis in the milk of 15 dairies, numbering 281 cows. The State Board of Health, upon request of the local board, administered the tuberculin test to these 281 cows, and found eight cows afflicted with tuberculosis, which the State killed and paid for. In each case the animal killed showed evidence of the disease upon post-mortem.

In two dairies the tuberculin test disclosed no tubercular reaction where the bacteriological examination showed the presence of tuberculosis in the milk. The tuberculin test showed that nearly three per cent. of the cows examined were tuberculous, and in addition marked six cows as suspicious cases.

The board is fully awake to the danger of tuberculosis and firmly believes in the efficacy of tuberculin to detect it. Its purpose is to examine for tuberculosis once a year, and also, in the interim, the newly added cows, which the vendors' monthly reports show will be about one-third of the dairies each year. Upon the failure of the State appropriation made to eradicate tuberculosis, the entire expense falls upon local boards, as is the case this year, and no law provides for killing or paying for the tuberculous cow except when the State is making the test. We find this our greatest stumbling block. What shall be done with the diseased cow? Her existence is a peril anywhere, and her use cannot be officially watched and prevented.

The board believes that when bacteriological examination shows tuberculosis in the milk of a dairy it has discovered a nuisance, a menace to health, and the dairymen should then be at the expense of locating it and eradicating it, of abating the nuisance, as in the case of any nuisance, the work to be done by an expert under the approval of the local board; that when the tuberculin test locates the disease in the cow the local board should have power to kill the cow, the loss of the animal to be borne by the owner if post-mortem shows disease, and by the local board if not diseased; and that a law should be passed conferring such powers and imposing such duties, and we urge upon this society that it take such steps as lie within its power toward securing proper legislation on this subject.

Meat Inspection.—No method of meat inspection has yet been adopted, the expense having thus far stood in the way. The board favors a public slaughter-house, where all animals shall be killed under official supervision and where the rendering shall be done, and all meat brought into the city for sale, except that receiving government inspection, shall be examined. Slaughter-houses are now under the supervision of the board, but the results are unsatisfactory.

IN HALIFAX, NOVA SCOTIA, the veterinarian receives fifty cents per call.

PECULIAR VIEWS FROM A HIGH OFFICIAL.

OAKLAND, CAL., Sept. 26, 1896.

Editors American Veterinary Review :

GENTLEMEN :—Enclosed you will find a clipping from the San Francisco *Chronicle*, the result of a conference by Major H. E. Alvord, Chief of Dairy Division of the U. S. Bureau of Animal Industry, with the health authorities of San Francisco.

We have heard and read many long-eared demonstrations, but the statements contained in this article are beyond doubt, considering the source, the most sottish and idiotic we have ever heard.

For the past five years a few earnest and hard-working veterinarians have been unceasingly laboring to bring the subject matter of the eradication and suppression of contagious and infectious animal diseases in this State down to a practical and scientific basis. The work done in these few years has just commenced to bear good fruit, more especially with regard to the weeding out of our dairies the tuberculous cow. Most of the larger cities on this coast have been prevailed upon by the veterinary and medical professions to adopt ordinances compelling dairymen to obtain a license before being permitted to dispose of their milk within the city limits, and before a license is issued to them they have to furnish or present a certificate of health from the city veterinarian. Some of our cities have had these ordinances in force for the past six months, and while in a manner they work a temporary hardship on the dairymen, the results meet with the unanimous approval of the veterinary and medical professions and the public at large.

In our municipality (Oakland) such an ordinance as described above passed our City Council by a unanimous vote and is now in the hands of our Mayor, who, if reports are true, has vetoed it, just because he has been counseled so to do by just such antiquated old fossils as this Major Henry E. Alvord. Is it not discouraging to see the results of five years' labor thrown to the winds by a few idiotic statements from the lips of a man whose official position should prevent him from making an ass of himself, even if he does not know any better.

We have an idea, Mr. Editor, though an impracticable one, we are sorry to say, that some legislation is needed to provide guardians or keepers for some of these mossbacks that are holding, in Washington, some of the most important offices in the gift of the American people, and these keepers or guardians should be empowered to muzzle their charges when they deemed it expedient to do so in order to prevent them from disgracing the office they have the honor to occupy, and to prevent them from undoing work that has taken years to accomplish.

We are not surprised at Major Henry E. Alvord giving utterance to the statements in the enclosed article, for we presume the poor man knows no better, but we are surprised that such ideas could originate in the brain of a man holding the position of Chief of the Dairy Division of the U. S. Bureau of Animal Industry.

This worthy gentleman, in support of his theory or ideas, quotes some European authority. We ask you, Mr. Editor, what would be the condition of the stock industry in the United States at the present day if we had followed the teachings of European authorities at the time pleuro-pneumonia contagiosa broke out in our Eastern States? If we adopt similar methods for the suppression and eradication of tuberculosis as we did for the eradication of pleuro-pneumonia, we shall eventually gain control of this devastating plague, but if we follow the teachings of European authorities in regard to tuberculosis we will meet no better success than they have done with pleuro-pneumonia contagiosa.

He speaks of isolating diseased cows and keeping them for the sole purpose of giving birth annually to a calf. This may be all very well on a breeding ranch, but when applied to a dairy we fail to see where the profit comes in by keeping an old shellback cow for the sole purpose of giving birth annually to a calf that at its best is only worth a few dollars.

Acting on this theory, supposing all tuberculous cows on a dairy are quarantined, how can the health authorities convince the public that unscrupulous persons will not utilize the products of the isolated animals?

To the intelligent mind the whole matter is preposterous, but coming at this particular time when the ignorant and unscrupulous are zealously seeking for obstacles to cast in the road of sanitary reform it becomes at once a serious proposition.

Respectfully,

DRS. PIERCE AND ARCHIBALD.

Major Henry E. Alvord, Chief of the Dairy Division of the Bureau of Animal Industry of the Department of Agriculture, held an informal conference with the health authorities yesterday on the subject of tuberculous cattle. There were present Bacteriologist Spencer, Professor Wenzell, chemist of the Board of Health; Dr. Morse, Health Officer Lovelace, Professor E. J. Wickson of the University of California, F. C. de Long, of the California State Board of Agriculture, and Attorney J. B. Reinstein.

Major Alvord announced himself to be acting in an individual capacity and not as the representative of his department in the expression of views concerning the war recently waged upon tuberculous cattle by the Board of Health. He said that he did not consider that the presence of tuberculosis as revealed by the tuberculin test was a justification of the immediate slaughter of the animals. He believed that the proper plan would be the complete separation and isolation from the healthy animals of those showing traces of disease.

"A distinction must be made between diseased cows and sick cows," said he. "I recommend the immediate slaughter of the sick cows, but just as a person diseased by consumption may round out a useful career, so may a diseased cow. A strict quarantine should be established of the diseased members of a herd; their milk should not be sold, nor any of its products marketed, but for breeding purposes these animals are perfectly good. It is now an accepted fact among veterinarians that the disease is not transmitted to the progeny.

"It is not practical to build separate barns for these animals, but by placing partitions in the barns the diseased and healthy animals may be kept separate. When the disease becomes so bad that the animal is manifestly sick it should be killed."

In support of his theory Major Alvord submitted extracts from a treatise by Professor Bang of Copenhagen, in which the reaction of tuberculin was dealt with and the reliability of the test fully considered. From the treatise the following extracts were read:

"From the uncertainty in the action of the tuberculin, established in various ways, we must necessarily conclude that the tuberculin test is not to be regarded as a certain legal proof of the existence of tuberculosis. When coupled with a physical diagnosis it may be considered sufficient to prove tuberculosis, but the tuberculin reaction alone gives, in my opinion, no sufficient proof of the presence of tuberculosis.

"The tuberculin test can produce a worse condition in tuberculous animals than before existed.

"It appears to me a very great risk to subject herds of breeding cattle, milch cows and other animals to the tuberculin test. By this procedure the tuberculosis which in many animals is in a dormant state is aroused and made immediately dangerous.

"A stronger reaction is most often noticed in slightest cases, while cattle which have been affected a long time frequently react only slightly or not at all. The large majority of reacting animals are only slightly tuberculous. They can remain for many years fully capable of accomplishing their work, and with many of them the tuberculosis remains wholly localized for the entire life, or even a cure may take place. For milk-yielding countries I prefer for the present to recommend a less radical method. First, to inoculate the herd with tuberculin. Second, to separate the reacting animals, as far as possible, from the non-reacting. Third, to kill the evidently sick animals at once. Fourth, to rear the calves of the cows which react, but otherwise appear healthy, or at least only slightly attacked. Fifth, to remove the same immediately after birth from the infected stable, place them in the healthy division and protect them from further infection, especially from milk feeding. Sixth, to carefully disinfect the stable. Seventh, to inoculate with tuberculin the animals of the healthy division once or twice yearly."

Major Alvord said that he considered the sanitary inspection of dairies of far more importance than the destruction of tuberculous herds. "I have examined some city dairies in the East," said he, "where the cows stood in stables and were milked through all stages of disease up to the very day they died. Dark, damp places where disease was sure to overtake them. In the city of St. Louis, where a larger proportion of the city's milk supply comes from city stables than from the farm, I found a condition of affairs such as I would not dare to tell you of. The health authorities there are co-operating with me, and conditions are becoming much better. I do not consider the presence of tuberculosis germs of such size and quantity as to be plainly discernible to the naked eye in slaughtered animals a justification for their destruction."

TRICHINOSIS IN AMERICAN HOGS IN GERMANY.—A dispatch from Berlin of recent date says: "The first official report of trichinosis in American hog products in Germany will be published next February."

EXTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

TUBERCULOSIS IN HORSES.—In the *Veterinary Journal* Mr. H. Ferguson records a case of this affection which is essentially interesting on account of the generalization of the disease, tuberculous deposits being found extensively spread at the post-mortem. The lungs were much increased in volume but not collapsed. Through their structure were areas of caseation, granulation and fibrous thickening. The bronchial glands were caseous. The diaphragm was studded over with tumors, of various sizes, all caseous in their centres. The liver was riddled throughout with masses of granulations and caseous nodules. The spleen was normal. The kidneys contained no tubercles. The lymphatic glands of the neck and maxillary space were enlarged and ulcerated.

PAROTID DUCT FISTULA.—In answer to an inquiry made by a collaborator of the *Veterinary Record* upon the treatment of this lesion, several cases are recorded in our contemporary where various suggestions are made, viz.: the joining of the wound across the orifice and the tying of a silk thread around it, the parts being kept clean and antiseptic with a lotion of bichlor. of mercury; the application of blister followed by cauterization with solution of nitrate of silver; collodion, pitch plaster, and obliteration of the gland by injections of tincture of iodine; the free division of the tissues involved, cutting of the walls of the fistula and then closely adapted suture of the wound with the strictest antiseptic precautions; a case is also recorded of beautiful healing in two or three days by tying the animal rather short in his stall, giving him nothing to eat but thin gruel, and putting a flax seed meal poultice over the wound.

EXTENSIVE ABDOMINAL WOUND IN A FILLY.—As an evidence of the impunity that, contrary to old ideas, the wounds of the abdomen present in our days of antisepsy, the *Veterinary Record* publishes a case of a three-year-old filly which had received a large wound through the abdomen, extending backwards and downwards and, commencing at the upper part of the lower third of the eighth rib,—leaving a large triangular flap of the skin hanging with a big piece of the external oblique of the abdomen, and complicated by the protrusion of a square foot of the mesentery, three ribs torn from their cartilages, and the colon protruding. The treatment consisted in the cutting off of the hanging mesentery and also of the piece of muscle, puncturing with an exploring needle of the bowels to permit their return into the abdomen, careful antiseptic washing of the wound, sutures of the abdominal wall and of the skin with glycerine and water, carbolic acid solution dressing repeated, and a binder right round the abdomen. The animal made a fine recovery, without having lost one meal and never having a rise of temperature above 103° ; and yet her hygienic surroundings were not the most favorable to her recovery.

LARGE COLON ADHERING TO THE PELVIS AND TO THE RECTUM—RUPTURE OF THE INTESTINES.—Mr. E. Butler, M.R. C.V.S., records, in *The Veterinarian*, this rare case. A draught horse, six years old, was affected with intermittent and irregular attacks of colic. Rectal examination revealed a fluctuating large tumor on the left side of the pelvis and adherent to the rectum. At first this tumor was soft but soon became harder and harder. After six weeks it was very hard. The rectum was pushed toward the right of the pelvis and intimately attached to the tumor, which, pressing on the bladder, gave rise to much pain and incontinence of urine. Defecation was also very difficult. Ultimately the horse died in one of these colics. At the post-mortem, the abdominal cavity was found full of food, which had passed through a large tear of the large colon, at the pelvic curvature, which was found adherent to the pelvis and to the rectum ; the rupture measured some six inches in length and appeared to have taken place gradually. The pelvic curvature contained hard fæces, moulded on the form of the intestines.

INVASION OF THE POSTERIOR AORTA BY A SARCOMA [*By Mr. J. A. W. Dollar, M.R.C.V.S.*].—After eight years of apparent perfect health a horse became lame on the left hind leg. The lameness subsided by a little rest, but soon returned, to disappear again. This condition kept on for a period of about six months ; the animal being otherwise in good health, his appetite good, his general condition satisfactory, except an œdema of the testicular envelope. Soon the lameness affected both hind legs, and finally was unable to work. The swelling of the testicles spread under the abdomen, as far as the elbows, the spermatic cord was thick and tense, venous pulse appeared on the jugular ; there was difficulty of micturation, no colicy pains ; the abdomen became large, the loins hollowed ; there was some jaundice of the membranes. At the post-mortem an enormous tumor, occupying the lumbar region, was found—the kidneys were hypertrophied. The growth involved the posterior aorta, weighed over 19 pounds, and seemed to be the continuation of the external coat of the aorta. It also involved the posterior vena cava, the ureters, the fascia covering the psoas, and the nervous trunk of the region. It extended from the renal to the iliac arteries. The microscopic examination showed it to be of sarcomatous structure.—(*Veterinarian.*)

AUTOPLASTY IN THE HORSE.—Mr. D. C. Campbell, M.R.C.V.S., in the same journal, publishes the record of a case of skin grafting which seems to him somewhat encouraging. It is that of a horse whose shoulder had been torn by another and for which the treatment applied made but slow progress. To hasten the recovery an attempt was made to graft a number of small pieces of skin (about ten) taken from the neck. These were removed with all antiseptic care, the granulations of the wound gently irritated and the pieces of skin carefully laid here and there on the surfaces of the wound. The whole was covered with a piece of oiled silk and a protective bandage. On account of the restlessness of the patient this had to be removed the same day. Everything would have gone well, had it not been for that accident. The wound, however, healed well and left but little cicatrix.

GERMAN REVIEW.

By W. V. BIESER, D.V.S., New York City.

BASEDOW'S DISEASE IN THE DOG.—Ever since 1840 Basedow's disease has been described in animals only three times (horse, dog, cow). A. had an opportunity of recording a case in the dog. The case began with restlessness; the dog had occasional convulsions; never reached the size of its mother, brothers, or sisters; eyes protruded markedly for the last four weeks; the dog could not remain quiet long in any one place, turning about uneasily and whining. Upon examination the eyes were seen to protrude markedly; the upper lids were immovable (Grafe's symptom of Basedow's disease in human beings); the pulse was 130 and arythmic; the respirations 30–35. The heart beats were easily felt, the arteries being very strongly contracted. There was marked swelling of the thyroid gland. In human beings, the protruding eyeballs, the goitre, and acceleration of the pulse rate are the chief symptoms, arythm of the pulse being only exceptionally seen. The disease in human beings is considered as a neurosis of the sympathetic nerve, especially as far as the goitre is concerned. The animal was destroyed with chloroform. Autopsy: Brain was markedly anæmic; attached to the markedly enlarged thyroid were three accessory glands; the right side of the heart was decidedly dilated.—(*Berl. Thierärzt Woch.*)

A NEW FIND IN LEUCÆMIC BLOOD.—In a typical case of lymphatic leucæmia M. found in the plasma of the lymphocytes small colorless bodies, of well defined contour, and varied shape, now oval, now round, now puckered, showing amœboid movements. Upon warming the slide these amœboid movements causing variations in shape were more rapid and more marked. He had thus far failed to discover these particular bodies in all other cases of lymphatic leucæmia, in freshly extirpated lymph glands of patients suffering from leucæmia, also in glands of oxen and cats suffering from leucocythæmia. This discovery means, therefore, that there is either a degeneration of the cells or protozoan present. A. also recommends chinin here as being effective, solut. Fowlerii, as is too often the case in leucæmia, being powerless to effect any result.—(*Berl. Thierärzt Woch.*)

CONCERNING THE PHAGOCYTIC POWER OF THE BLOOD OF THE NEW BORN.—In the study of immunization, from no source as yet has the blood of the newly born been brought into requisition. The author has of late years studied such blood with special reference to its immunity-giving powers. He studied the blood of 82 newly born and in 68 cases, viz., 83 per cent., found such blood more or less protective against diphtheritic infection; he found in 14 cases only, viz., 17 per cent., no immunity-giving corpuscles (phagocytes).—(*Berl. Thierärzt Woch.*)

SHOULDER LAMENESS IN A HORSE.—An army horse favored the off fore leg. Treated as shoulder lameness, he failed to improve. The author putting his hand between the chest and elbow-joint found in about the middle of the humerus a hard, painless, movable mass of the size of an egg. This was removed and the lameness disappeared. The author declares that the swelling by motion of the limb, exerted pressure on the radial nerve which in time led to disturbance in locomotion.—(*Schweiz. Archiv. für Thierhlk.*)

HAIRBALLS IN THE ŒSOPHAGUS OF COWS.—S. discovered after a careful examination of a markedly flatulent cow, a round body in the upper part of the œsophagus which he took for a potato. After this body had been, with extreme difficulty, removed through the mouth, it transpired that it was a hairball of the size of an ordinary billiard ball. L. observed a similar condition of affairs in another cow. But he did not succeed in driving the tightly-wedged foreign body either down into the œsophagus or up through the mouth; thereupon he resorted to œsophagotomy and removed a heavy hairball weighing 50.0 (12½ drachms). The animal was slaughtered the next day. That the hairballs regurgitated into the œsophagus from the rumen after repeated chewings is evident.—(*Schweiz. Archiv. für Thierhlk.*)

SPANISH REVIEW.

Professional Chronicle.—The editorial staff of the *Gazeta de Medicina Veterinaria de Madrid* complains of the deficiency of education of the veterinary students who enter the schools of Spain. Notwithstanding the fact that more than one-third of the candidates are not admitted, those that enter are of a regrettable nullity. The authors of the article pity the professors of those schools, who, though taking so much trouble to teach their scholars the subjects necessary to the practice of their profession, will find that when they leave the schools they have benefited but little by their teachings, though the curriculum is so deficient and incomplete. They beg the "catedraticos" of those schools (professors) to have the courage of Bourgelat, who threw up his position before a too easy board of examiners, and refused to play any longer the part of "scientific charlatan," and thus to escape the accusation of being perfect "vividores," or "strugglers for life," who look only after their own interest, their own welfare, independent of that of others. They ask the Minister of Agriculture and the General Director to watch the examinations and reform at once veterinary education.

Contribution to the Study of the Diseases of the Spinal Cord [*By Don Juan Natamoro Albial*].—The author relates a case of acute hyperæmia of the spinal cord, for which he recommended the following treatment: 1st day—Bleeding at the jugular, 4 pounds; stimulating friction over the loins (strong liniment); tracheal injection of 5 c.c. of solution of aconitine (5 centigrammes in 50 grammes of water); another injection in the night. 2d day—No change in the symptoms. A purge of 60 grammes of aloes, 15 of colocynth, and 0.30 centigrammes of croton oil, divided in two doses, two hours apart. (What a purge!) 3d day—Improvement. Tracheal injections renewed. 4th day—Same. 5th day—The hind legs move; setons to the thighs. 6th, 7th, 8th days—Light exercise. Recovery.—(*Gaz. Med. Vet. Mad.*)

STATISTICS.—From the *El Castellano* the following shows the number of animals actually in Spain: Horses, 397,372; mules, 767,929; donkeys, 753,914; bovines, 2,217,659; ovines, 13,359,482; goats, 2,534,219; swine, 1,927,864; total, 21,960,430.

ITALIAN REVIEW.

ARECOLINE IN THE GASTRO-INTESTINAL AFFECTIONS OF HORSES AND CATTLE.—*Il Moderno Zoviatro* contains from the pen of Dr. Umberto de Maia the record of three cases of those affections (two in horses, one in a cow), where he minutely describes the effects he has observed of the subcutaneous injection of 8 centigrammes of arecoline in 3½ and 4 grammes of water in those animals, and from his observations concludes: 1st, arecoline is not as powerful sialagogue as pilocarpine; the salivary secretion is not as strong as with this last alkaloid, it does not last as long; 2d, the laxative action is eight times superior to that of pilocarpine; in horses, it is not accompanied with pains; 3d, the cardiac depression is very weak; once only was the pulse lowered to 28; 4th, arecoline can be used against gastric and intestinal indigestion, gastric catarrh and indigestion of the omasum; for this last, whether acute or chronic, the injection must be of 6, 8 and 10 centigrammes, repeated daily until recovery, or even twice or four times a day in doses of 3, 4 or 5 centigrammes.

ACTINOMYCOSIS IN A LIZARD.—The *Ufficio Sanitaria* contains a note from Dr. Ferni, who has found in a green lizard, greyish hepatic nodules, formed of pus and ramified threads. The character of their cultures are those of the actinomycosis bovis, of which they may be considered a variety. These cultures were inoculated to other lizards and gave rise to the same lesions.

STATISTICS OF THE DOMESTIC ANIMALS IN ITALY AND THE VALUE THEY REPRESENT.—From an approximate estimate of the general directors of Agriculture the number of domestic animals in Italy is represented as follows: Horses, 720,000; donkeys, 1,000,000; mules, 300,000; bovines, 5,000,000; ovines, 6,900,000; caprines, 1,800,000; swine, 1,800,000. They are estimated at a value of 2,191,200,000 lire, viz.: Horses, at 600 lire a head, 432,000,000 lire; donkeys, at 50, 50,000,000 lire; mules, at 400, 120,000,000 lire; bovines, at 275, 1,275,000,000 lire; ovines, at 12, 82,000,000 lire; caprines, at 13, 23,000,000 lire; swine, at 60, 188,000,000.—(*Clin. Veter.*)

CASTRATION OF THE COW [*By Prof. Lanzilotti-Buonsanti*].—In the August number of the *Clinica Veterinaria*, which he edits and has published for nineteen years, the professor records the success he has obtained with this operation, and expresses the idea that he hopes to see soon the operation occupy in veterinary surgery the rank it deserves by the great advantages that can be derived from it. He has during the months of November to January, at the clinic of the Veterinary School of Milan, performed 12 castrations, all successfully. Some of these were laparotomies—that is, castration through the abdomen; nine were by the vaginal method. From the results obtained it seems that the last operation is undoubtedly the most advantageous and remains evidently the most scientific.

REVIEW OF BIOLOGY.

CONGENITAL IMMUNITY OF OVINE VARIOLA [*By Mr. Duclert*].—In his studies upon the disease, the author has met with subjects having an absolute or a relative immunity; these were born of ewes having had variola before conception. He then undertook experiments to prove the heredity of immunity in that disease. He used as witnesses, lambs three or four months old, born of unvaccinated mothers, comparatively with others of the same age but issued from immunized mothers. All were inoculated by hypodermic injection. While the former died with variola, the latter showed an absolute and a relative immunity; in this last condition the disease developed itself, but the animals recovered. In a small epidemic which had attacked a number of six-months old lambs issued of ewes vaccinated by a previous attack, the disease remained benignant; but was, however, more severe than in the three or four months old lambs inoculated experimentally. Congenital immunity seems thus only temporary in variola.—(*Soc. of Biol.*)

PREVENTIVE AND CURATIVE SERUM OF VARIOLA [*By the same*].—The author has recently shown that immunity is hereditary in variola ovina. This weak receptivity has seemed to him due to the property of the serum. Indeed, he has taken serum from animals that had resisted serious attacks of the disease, ten or twelve months before. During sixteen days, by daily doses, he injects to four lambs a total quantity of 190 cubic centimetres, and then ½ cubic centimetre of very active variola virus. These lambs had no eruption, while a witness, which received the same quantity of virus, died of variola. The serum there acted as a preventive, but the granted immunity was only temporary. In another series of experiments, six lambs received a subcutaneous injection of active virus. When the skin began to redden and to be œdematous at the point of inoculation, daily injections of serum are made. The evolution of the disease diminishes and is arrested ; the tumor goes down, and a large slough takes place, which is eliminated by granulation. There was no indication of generalization. A witness lamb, inoculated and received no serum, contracted a variola, generalized to all the skin. Then the serum cures ; but the first injection must be made as soon as the apparition of the local manifestations of inoculation. If the local accident is too extensive or if the virulent agent has invaded the whole organism, the serum remains powerless.—(*Ibid.*)

EFFECTS OF MALLEIN AFTER INJECTION IN THE PORTAL SYSTEM [*By MM. Teissier and Guinard*].—The authors were the first to show that the effects of some microbian toxines, in particular those of pneumobacilline and of the diphtheric-toxine were increased by their immediate passage through the liver. They have continued their experiments, in using the dog as subject, and in employing mallein and tuberculin. The demonstration is still more marked ; as the difference observed in the manifestations is here caused by the longer life of the animal witness to which the toxic had been injected in the jugular vein.—(*Ibid.*)

THERAPEUTIC REVIEW.

STABILITY OF THE SOLUTIONS OF IODIDE OF POTASSIUM OR OF SODIUM [*By Mr. Carles*].—To preserve the stability of these solutions which, with age, become more or less yellow, the author proposed to add to the solutions a little hyposulphite of soda, as follows :

℞	Iodide of potassium,	10 grammes.
	Hyposulphite of sodæ,	0.05 centig.
	Distilled water,	200 grammes.

New Antipyretic Formula:

℞ Chloryhydrate of quinine,	3 grammes.
Antipyrine,	6 "
Distilled water,	10 "

For one subcutaneous injection in the horse.

For Local Anæsthesia:

℞ Antipyrine,	5 grammes.
Muriate of cocaine,	0.50 to 1 "
Distilled water,	10 "

For one injection under the skin of the field of operation.

Electuary for the Stomachal Catarrh of Horses:

℞ Calomel,	3 grammes.
Powdered rhubarb root,	12 "
Extract of aloes,	10 "
Bicarbon. of soda,	10 "

M. et fiat electuarium. Sig. To be given in one dose.

—(*Bullet. Veterin.*)

TREATMENT OF CHICKEN CHOLERA [*By Dr. Rosolino*].—1st. Injection under the skin of the chest of 3 c.c. of the following solution:

℞ Bromohydrate of quinine,	3 grammes.
Antipyrine,	6 "
Distilled water,	100 "

2d. Disinfect the hen-houses with sulphuric acid in solution of 1 pr. 500.

3d. Give to healthy animals for two days, 25 centigrammes of salicylate of soda in flour.

Out of six very sick hens, having received the first part of the treatment, but one died. In the others all indications of sickness had subsided in four or five hours.

NALACINE.—It is a salicylate of para-phenethydine, that is a phenacetine in which the aldehyde salicylic takes the place of the acetic acid. It possesses powerful antineuralgical and antirheumatismal properties. It is superior to salicylate of soda, as being less depressive and better supported by the stomach. It is given in man in doses of 3 to 5 grammes a day.

TANNALBINE. — An amorphous pulverulent substance of yellow color, tasteless, obtained from the albuminate of tannin, heated to high temperature. It is recommended in dogs, 1 gramme dose, 2 or 3 times a day, against acute or chronic diarrhœa. It does not disturb the stomach.—(*M. Kaufmann.*)

A THREE-DAY MEETING ought to be sufficient time in which to read and discuss a great many scientific papers, but at the last session of the U.S.V.M.A. a large number of them had to be read by title only, so much of the time of the Association being taken up with routine business.

BIBLIOGRAPHY.

PATHOLOGIE INTERNE DES ANIMAUX DOMESTIQUES (Internal Pathology of Domestic Animals). Vols. VIII. and IX. of Cadeac's Encyclopedia. Paris: J. B. Bailliere et fils, Rue Hautefeuille.

These two volumes form the first two parts of the internal pathology, which is to occupy six volumes in the encyclopedia of Cadeac. These treat of the diseases of the digestive apparatus proper—viz., the digestive tract from the mouth to the posterior end of the pelvic contents. The classification adopted by the author presents some advantages, but is not without inconvenience. Diseases are studied successively in each of the species, and each disease is considered to the point of view of the etiology, pathology, symptoms, lesions, etc. Vol. VIII. considers the affections of the anterior regions of the digestive apparatus from the mouth to the intestines, viz., the diseases of the mouth, of the parotid, maxillary and sublingual glands, gutteral pouches, œsophagus, jabot, rumen, reticulum, omasum, and stomach. In Vol. IX. the diseases of the intestines are examined: intestinal congestion, enteritis, ruptures, abscesses, obstruction, foreign bodies, tumors, parasites. The two volumes form a number of chapters, which are subdivided into various numbers of articles, in which are studied the various forms the diseases may present in each of our domestic species, including fowls. Both volumes are illustrated by a large number of wood cuts, 61 in the eighth and 78 in the ninth, which add considerably to the demonstrations. Beginning of a work on internal pathology, they are well up with their predecessors; they contain lots of information, and recommend themselves for real qualities which cannot escape the attentive reader.

PATHOLOGIE INTERNE DES ANIMAUX DOMESTIQUES (Internal Pathology of Domestic Animals). Vols. X. and XI. of Cadeac's Encyclopedia. Paris: J. B. Bailliere et fils, Rue Hautefeuille.

In previous issues we have considered the successive portions of this encyclopedia, so regularly and uniformly published by the house of J. B. Bailliere et fils, of Paris. The last two volumes, published almost together, continue the series of internal affections, concluding the diseases of the liver, peritoneum, nasal fossæ, and sinuses in Vol. X, and the diseases of the larynx, trachea, bronchia, and lungs in Vol. XI. They conserve the uniform appearance that each work of the encyclopedia offers, almost even to the number of pages, and both contain a large number of neatly made woodcuts. In Vol. X. we find five chapters in which the diseases of the rectum, pancreas, liver, diabetes, hepatitis, atrophy, parasites, splenitis, peritonitis, followed by those of the diaphragmatic region and the affections of the nasal fossæ and of the sinuses. Vol. XI. contains only four chapters, with the various forms of laryngitis, tracheitis, bronchites, and lung diseases. These chapters are subdivided into articles treating of the special affections of the principal organs, the foreign bodies, tumors and parasites. In this volume the diseases of the lungs proper occupy the greater part of the book, and the various forms of pneumonia receive the attention they deserve under the various titles of lobular pneumonia, broncho-pneumonia, pleuro-pneumonia, corn-stalk disease, parasitic broncho-pneumonia. Following a plan which has been adopted by the author, and which has been followed in the two preceding volumes, the description of the diseases include not only those that are met with in solipeds, but in all the domestic animals. The section of internal pathology of the encyclopedia is a true treatise on comparative pathology. With the extent which is given so far in the work, and which certainly will be continued by Prof. Cadeac, it is doubtful if the next two volumes will be sufficient to treat of the remaining subjects, the circulation and innervation, as it was intended in the original programme.

COMPEND OF VETERINARY MATERIA MEDICA AND THERAPEUTICS, by A. C. Hassloch, V.S., late Lecturer on Materia Medica and Therapeutics at the New York College of Veterinary Surgeons. New York: W. R. Jenkins, 851-853 Sixth Ave.

The author of this neat little volume has succeeded in presenting to the veterinary profession a short but comprehensive work embracing the most commonly used veterinary drugs, freely admitting that he has obtained the most important facts from the standard authors, but they are presented in a manner that only experience in active practice would dictate. It will therefore prove a work of great benefit for busy practitioners and for students reviewing this branch of their studies. It is very intelligently classified, and a copious index is of great assistance to the reader. We very heartily recommend the book, and think it should find a welcome place on the shelf of every veterinary library in the country.

HORSES IN THE UNITED STATES.—There are now in the United States nearly 16,000,000 horses. The REVIEW will publish a detailed statement of their location, and the effects of the present depression upon their numbers next month.

SOCIETY MEETINGS.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting of this Association was called to order at 8:30 P. M., Oct. 7th, by the President, Dr. Huidekoper, at the Academy of Medicine.

The following members responded to the roll-call: Drs. Delaney, Dair, Ellis, Giffen, Gill, Huidekoper, Hanson, Loomes, Machan, MacKellar, Neher, Robertson, and Rider.

The minutes of the previous meeting were read and approved.

It was moved, seconded, and carried that the report of the Board of Censors (Dr. H. D. Gill, Chairman) be voted on in sections as follows; Section 1, Johnson's case; section 2, Ferster's case; section 3, Glover's case; section 4, recommendations to be presented by the chair to Judiciary Committee.

The report of the Board of Censors was as follows:

Dr. S. K. Johnson's Case.—The charge against Dr. S. K. Johnson for breach of Article VII of Code of Ethics was referred back to the Association, for the reason that the Board of Censors had no jurisdiction, as a motion relative to the case had been passed at a meeting held April 7, 1896, which was as follows: *Resolved*, That the Board of Censors recommend to the Association that if the said Dr. S. K. Johnson does not show satisfactory evidence of having resigned and severed all connection directly or indirectly with the said insurance company on or before October 15th, 1896, he be expelled as a member of this Association. Moved and seconded that the report be accepted. Carried.

Dr. J. H. Ferster's Case.—The acceptance of Dr. J. H. Ferster's resignation was, at the last meeting, laid on the table. The Board of Censors finds that Dr. Ferster at the date of his resignation was in good standing, and therefore recommends the acceptance of the same. Moved and seconded that the report be accepted. Carried.

Dr. H. Clay Glover's Case.—The charges against Dr. H. Clay Glover were for a breach of Article VI of Code of Ethics, and the improper and illegal use of the title "D.V.S.," and he was recommended to the Association for expulsion, and they also suggest that the attention of our Judiciary Committee be called to the latter fact. Moved and seconded that the report be accepted. Carried.

Information having come to the Board of Censors that Meat Inspectors employed by the New York City Health Department and the Bureau of Animal Industry, were not veterinarians, and consequently illegally practicing, the matter was referred to the Judiciary Committee for immediate action.

Dr. W. Herbert Lowe, of New Jersey, read a very excellent and carefully prepared paper on " Heredity."*

The discussion was opened by Dr. Hanson, and followed by Drs. Gill, Neher and others.

Moved by Dr. Hanson, and seconded by Dr. Robertson, that a vote of thanks be extended to Dr. Lowe for his paper and the interest shown in the Association. Carried.

The Board of Health Committee (Dr. Robertson, Chairman) reported progress. The committee was then directed by the chair to continue for another month, and report in writing at the next meeting.

The following gentlemen presented applications for membership in the Association: F. E. Winslow, of Flushing, L. I., and W. H. Wright, of Long Island City.

Moved and seconded that a vote of thanks be extended to visiting members for their courtesy in accepting the Association's invitation to be present at the meeting. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Secretary.*

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The Keystone Association resumed its regular monthly meetings in room No. 1, third floor, northwest corner of Broad and Filbert Streets, Philadelphia, on Tuesday, Sept. 8, 1896, with President Hart in the chair.

The committee on certificates reported progress, saying all suggestions had been harmoniously decided upon and the certificates would be ready for delivery at the October meeting.

Drs. Hart and Hoskins gave a most gratifying report of the U.S.V.M.A. meeting at Buffalo, with a brief summary of the programme and recital of the great hospitality enjoyed. It was with keen regret that many voiced their disappointment at not having been able to be present.

Dr. Hart appointed Drs. F. S. Allen and W. H. Hoskins a committee on entertainment, and a full winter's work was planned for. The October meeting will be favored with a paper by Dr. Hoskins on "Some Aspects of Association Work in the Future." The first paper in the series of half-hour talks, a plan inaugurated by the association for the entertainment of its members and guests during the coming season, will be by Dr. J. Cheston Morris, member of the Devon Cattle Club, on some thoughts and statistics in dairy products, personal experience in the proper preparation of milk for sale in the markets, and the value of separate products of milk.

---

* Printed elsewhere in this issue.

A number of cases were reported, among which probably the greatest anomaly was reported by Dr. Hoskins. It was that of a male Angora cat, recently castrated and placed in his sanitarium for completion of recovery, subsequent to operation. Subject extremely anæmic, with complete anorexia, during a period of two weeks eating nothing but a few spoonfuls of milk, refusing every other kind of food. The animal was listless, lying invariably on the right broadside. A fœtid diarrhœa preceded death a short time. *Diagnosis.*—Pernicious anæmia. *Treatment.*—All kinds of food, milk, eggs, fish, meats (cooked and uncooked), tonics, pepsin, iron, and nux. *Autopsy.*—Heart in abnormal position, resting against right thoracic wall, remnants of right lung only. Left lung divided into five lobes, firmly attached to spinal column; each lobe divided in its entirety; partially developed diaphragm; large omentum increased in size, estimated as one-half; very thick and embedded with small wax-like deposits, somewhat resembling miliary tubercles. Omentum extended to the thoracic cavity and appeared to aid in sustaining the heart, in place of pleura folds of mediastinum. Liver displaced and very much like a horse chestnut in shape; very dark in color and rough on its exterior, situated almost entirely on right side of abdomen and resting against internal abdominal wall. All other organs very pale and waxy in color, but otherwise normal in appearance.

Delegates were appointed to the Pennsylvania State Association meeting, at Reading, on October 8.

W. L. RHOADS, *Sec'y.*

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The thirty-seventh regular meeting of this Association was held at the Continental Hotel, 850 Broad Street, Newark, Oct. 8th, 1896.

The meeting was called to order at 11 o'clock, the President in the chair, 16 members being present.

After the minutes of the previous meeting were read and approved, Dr. Lawes, of Red Bank, read a paper on "Tetanus,"* which was discussed by nearly all present.

The President then requested the Secretary to read a paper relating to the actions of some of the members of local societies for the prevention of cruelty to animals. The discussion on this paper lasted until 2 o'clock, when dinner was announced.

Meeting reconvened at 3.30 o'clock.

It was moved and seconded that Dr. Hawks' paper be adopted and spread upon the minutes of the Association. Carried.

The Secretary then read a number of telegrams and letters of regret from members and others who could not be present.

The remainder of the afternoon was devoted to reporting cases, all agreeing that this was one of the best meetings held by this Association.

The President appointed Doctors Dustan, Gerth and Arrowsmith to read essays at the next meeting, to be held in Newark in April.

After adjournment many of the members accepted the invitation of Dr. Connelly to visit the bacteriological station at the City Hospital, and witness the mode of inoculating horses for the propagation of antitoxine serum.

S. LOCKWOOD, *Sec'y.*

NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.

The twelfth meeting was held at Concord, Sept. 1st, 1896, with President Dr. Lilico in the chair. Drs. Lilico, Russell, Wilkinson, Macguire, Abbott and Tuttle responded to the roll. Dr. Ebbitt, of Omaha, Nebraska, was present as a guest.

A letter from the Pasteur Memorial Fund Committee was read, and it was voted to appropriate five dollars from the treasury for this purpose.

Dr. Lilico, of the Legislative Committee, stated that the committee had no report as yet, but that it would be read at the December meeting.

Dr. Lilico read a most interesting paper on "Colic," which was followed by discussion.

Dr. Ebbitt, of Nebraska, kindly offered a few remarks, and brought out new points, which were very interesting.

Meeting adjourned at 1.30 until December.

L. E. TUTTLE, M.D.V., *Sec'y pro tem.*

---

* Printed elsewhere in this issue.

CHICAGO VETERINARY SOCIETY.

Thirty-three veterinarians of Chicago responded to invitations of a temporary committee, and assembled in the Sherman House, October 13, to organize the Chicago Veterinary Society. The gathering was representative of the leading practitioners of the city, of the faculties of the colleges, and of the local branch of the Bureau of Animal Industry. The officers elected are: R. G. Walker, President; O. S. Dyson, First Vice-President; J. Henderson, Second Vice-President; R. E. Fish, Third Vice-President; L. Campbell, Secretary; G. E. McEvers, Treasurer. There was a lively discussion in regard to a proper name for the society, several titles being suggested, but the choice finally fell upon the simple name, Chicago Veterinary Society. A constitution and by-laws were accepted, which were largely copied from the Illinois State Veterinary Medical Association, and which contain a well-defined code of ethics. The aim of the society is to arouse and maintain a collegial feeling between the members, and to aid in municipal, State and National legislation. The society will hold its regular monthly meetings every second Thursday evening, in the Sherman House, Chicago.

ONTARIO VETERINARY COLLEGE MEDICAL SOCIETY.

The Veterinary Medical Society in connection with the Ontario Veterinary College held its first meeting of the session 1896–97 for the reading and discussion of papers, in the lecture hall of the college on Friday evening, Oct. 16th.

Prof. Smith, F.R.C.V.S., Principal, presided. There was a good attendance of students. The Chairman in opening the meeting made a few well chosen remarks announcing the objects of the meetings and the benefits to be derived from a free discussion and interchange of views on the papers submitted.

The following papers were read: *Essays.*—"Crotalism," a disease affecting the horse, produced by a plant called the "rattle box" (*Crotalarium Sagittatis*), which possesses narcotic properties, by Mr. G. P. Statters; "Laminitis," by Mr. C. H. Bugbee.

Communications.—"Azoturia," by Mr. T. J. Cooper; "Inversion of the Uterus," by Mr. C. W. Clark.

The papers were well received and were listened to with marked attention, and at the close of each paper very valuable and instructive discussions ensued.

THE MISSOURI VALLEY VETERINARY ASSOCIATION held its quarterly meeting in Kansas City on October 7th, and was well attended.

Dr. F. W. Hopkins read a very interesting paper about "The Veterinary Profession"; Dr. R. H. Harrison presented a paper discussing "Comparative Pathology"; Dr. E. L. Day read a paper entitled "Surgical Repair," which brought out an animated discussion.

Dr. Stewart gave a talk on his impressions of the Buffalo meeting of the U. S. V. M. A., not forgetting the story about "wanted to see the fellow's jaw work." The Association will hold its next meeting in Kansas City, December 9th. S. S.

CORRESPONDENCE.

HORSESHOEING.

CUBA, OHIO, Oct. 1, 1896.

Editors American Veterinary Review:

In the May issue of your valuable journal, I noticed an article on horseshoeing by Dr. E. L. Morgenroth, also one in the August number by Dr. F. O. Richmond, in which they say said articles were written to get the expression of the veterinary profession on the very important subject of horseshoeing. Feeling I should like to offer my opinion on this subject, I will say I do not know how to do so better than to submit an article for your publication written by myself in competition for a cash prize offered by the *Blacksmith and Wheelwright* (a periodical published in the interest of the shoeing fraternity), said article receiving a special cash prize from the Bryden Horseshoe Co., Catasauqua, Pa., and from whom I have permission for you to publish the article, should you think it worthy of a place in a journal published exclusively in the interest of higher veterinary education. Said article was written from a veterinary standpoint and in answer to three questions propounded by said company, which were as follows:

1st. Which is best for horseshoeing, iron or steel?

2d. Should horses be shod with same weight of shoe fore and hind? If not, why not?

3d. Is the wide-web front shoe of any advantage to the foot? Is not the narrow-web front shoe growing in favor?

ARTICLE.

In entering the competition for the cash prize offered in the

Blacksmith and Wheelwright, I would say, experience shows that in the present state of the domestication of our faithful friend, the horse, and the condition of our macadamized public highways, it has become necessary to look about us for some mechanical protection for the horse's foot. In studying the foot we perceive the lower border of the wall is the part most deeply concerned in resisting wear and strain in the unshod state, as on it the stress chiefly falls. It is, consequently, the portion of the hoof that suffers most severely from undue wear, and that which alone requires protection. What we should strive to do is to imitate nature in trying to supply this want. In my opinion, a light, narrow band perfectly fitted to the wall, leaving the sole and frog in contact with the ground (where nature intended them to be), comes the nearest to filling all the requirements of a perfect shoe.

In answering the first question as to relative value of iron and steel, I would say that my experience goes to strengthen the assertion of Prof. George Fleming in his work on "Practical Horseshoeing," where he says: "There can scarcely be a doubt that anything more simple and efficient, and at the same time less expensive than a well-devised iron shoe can at present be produced." I am in favor of iron for the reason that it is less expensive, does not become so smooth by wear, therefore to a certain extent does away with one of the greatest curses of the present age (toe and heel calkings); wears as long as any horse ought to carry a shoe, say three or four weeks, and in my experience fills every requirement.

In regard to the second question, "Should horses be shod with same weight shoes fore and hind?" my answer would be, yes. As I have said in answering the first question, the wall of the hoof should be encircled by a firm, iron band, no wider and no heavier than will protect the wall of the hoof for a period of three or four weeks. The fore shoe should be no heavier than the hind shoe, only that the fore foot, being larger than the hind one, it takes more iron to go around it and necessarily weighs more. The axiom, "An ounce on the foot weighs a pound at the shoulder," is undoubtedly practically correct, and many young animals are annually ruined by carrying burdensome chunks of iron on their feet, instead of being intelligently shod.

As to the third question, "Is the wide-web front shoe of any advantage to the foot?" In my opinion the answer must be, no; not if the narrow web is sufficiently thick and strong to protect the wall, which I have endeavored to show is all that needs protection. We must bear in mind that shoeing is necessarily an evil. It is only an effort to supply a protection to the parts that have been worn away by our unnatural treatment of the foot, therefore we must not cover up or burden any more of the foot than is absolutely necessary to protect the parts worn away. The narrow-web is light and efficient, and if properly applied fills every requirement, and does not burden the foot. In our professional duties our attention is almost daily called to bruises of the sole caused by some foreign substance becoming lodged between the broad-webbed shoe and the sole, thereby causing a very formidable and dangerous wound, which ofttimes, if not properly attended to, causes tetanus from septic absorption.

In regard to the question, "Is not the narrow-webbed shoe becoming in favor in your locality?" I would say, emphatically yes! Why? I know no other reason than that the American people are becoming more enlightened, and are recognizing the fact that their pecuniary interest demands sound reasoning on this subject. The country is being filled with intelligent, practical veterinarians who are able to reason these questions from a scientific standpoint, thereby doing away with superstitions and causing the smith to be a practical, thinking man, that can handle the foot of the horse in a way becoming the present age. But a short time ago I was called to examine the driving mare of a very practical physician, for an unaccounted for lameness. After locating the trouble, I advised shoeing her in a certain way, which was done. In conversation with me on the subject some time after, he said, "It is quite probable that I will have to admit that merely nailing a chunk of iron on a horse's foot is not shoeing him." What we want is practical skill in shoeing horses, and not superstition and ignorance. Allow me to quote Prof. Fleming again to justify my position concerning narrow-webbed shoes. He says: "It must be laid down as a rule in farriery, and from which there must be no departure, that the sole of the foot is a part not to be interfered with on any pretense so long as the foot is in health, not even the flakes are to be disturbed; it should ever most strenuously be insisted upon that the whole lower face of the hoof, excepting the border of the wall, must be left in a state of nature; the horn of the sole, frog and base has an important duty to perform or fulfill; it is the natural protection of this part of the hoof, and no protection of iron, leather or other material is half so efficacious; in addition, it is a capital agent in sustaining weight, and making the whole foot healthy and perfect in form." Gentlemen, it would be more than folly to persist in the use of the broad-webbed shoe after such argument, emanating from the source it does and backed by every-day experience. In conclusion I would say, after familiarizing myself with the anatomy and physiology of the horse's foot, and the almost daily perusal of Fleming, Zundel, Russell, Rich, Roberge and other scientific writers on the foot of the horse, and a practical experience of over 20 years in treating the various diseases of the feet, I am constrained to say that in my opinion, the light-weight, narrow-webbed iron shoe, mechanically applied, is the shoe. M. J. JONES, V.S.

AS TO NON-GRADUATES PRACTICING.

NEW YORK, Oct. 8, 1896.

Editors American Veterinary Review:

GENTLEMEN:—Will you kindly inform me through your invaluable paper how such men as ——, —— and some others are allowed to practice. Also inform me how a few gentlemen who have attended a college for four and five years and never graduated can practice and have cards printed to the effect that they are "Dr. So and So, Veterinarian." Is it not necessary to obtain a diploma? If not, I think those who have spent their money and time had better bring suit against the University of the State. This question has been a source of great annoyance to me, and if you will kindly solve it through your paper it will probably benefit others also. PROFESSIONAL.

[All practitioners of veterinary medicine in New York State are required to register; certain considerations gave them this privilege previous to a certain date, after which a diploma was necessary to register. Our correspondent should see if the names of the parties he complains of are upon the registry in the County Clerk's office. If they are not, he should make an affidavit before the Judiciary Committee of the Veterinary Medical Association of New York County, who have power to prosecute.—EDITOR.]

VERATRINE INJECTIONS IN MAMMITIS.

BATON ROUGE, LA., July 20, 1896.

Editors American Veterinary Review:

GENTLEMEN:—In looking over the July issue of the REVIEW, I observe among the extracts from foreign journals, one from the French, by M. Detchevers, recommending the hypodermic injection of veratrine in the treatment of mammitis in the cow, and in the following solution: "Veratrine, 40 centigrammes; alcohol, a few drops; distilled water, 10 grammes. The injection can be renewed if the fever returns."

I had a cow suffering from a severe attack of mammitis, and to which I administered the above solution. My patient was dead in less than three-quarters of an hour, after exhibiting all the symptoms of veratrine poisoning. My object in alluding to this subject is to try to prevent others from falling into the same trap. I considered the dose a large one, but as the author of the article gives distinct instructions for the preparation of the solution, and then says as distinctly that "the injection can be renewed if the fever returns," I had no hesitancy in trying the quantity given, but with the untoward result just recorded. I think most practitioners are always ready to give a trial to methods and medicinal agents which are recommended by authorities in the profession, but if we are to be guided by extracts in our journals, those extracts should be explicit in every particular, so that the information they are desired to convey would be unmistakable. If the solution above referred to was not meant to be administered in one dose, the proper dose ought to have been stated, but the directions assuredly read as if the formula given was for one dose.

Mammitis in the cow is a condition occurring frequently in the practice of almost every veterinarian, and if some of them are led into making a similar error in using M. Detchevers veratrine solution, they undoubtedly will have some fatalities from veratrine poisoning to record.

I can perhaps scarcely excuse myself for not being more conversant with the proper dose of such a powerful drug as veratrine, but the text of the extract appeared so plain that I was inadvertently led into making the mistake. Respectfully,

W. H. DALRYMPLE.

[The abstract referred to by Dr. Dalrymple was correctly translated from the French, and the error belongs to the source from which the REVIEW obtained it. As confirmatory of this, Dr. Bieser, who so ably presides over "German Review," furnished us simultaneously with the French translation the identical article, which he had found in one of the most trustworthy German periodicals.—EDITOR.]

BOVINE TUBERCULOSIS IN SAN FRANCISCO.—It is stated that nearly fifty per cent. of San Francisco's dairy cows will have to be slaughtered to stamp out tuberculosis.—*Med. Rc.*

NEWS AND ITEMS.

DR. FRANCIS ABELE, of Quincy, Mass., recently had his arm broken by being kicked by a horse, but is rapidly recovering.

DR. H. B. ADAIR, of Kansas City, Mo., recently received an appointment in the Bureau of Animal Industry and has been stationed at Milwaukee.

DR. MILNESS, of Cedar Rapids, Ia., and Dr. Don Patton, of Hampton, Ia., have been appointed as meat inspectors, and are located in Kansas City.

I. K. DECKARD, D.V.S., of Middletown, Pa.. was judge of horses at the fair of the York County (Pa.) Agricultural Society, held at York, Oct. 5th to 9th.

DR. H. J. MCCLELLAN, of Lansdowne, Pa., has, we understand, given up the practice of veterinary medicine and embarked in the real estate business.

THE annual election of officers of the V.M.A. of N. Y. Co. will take place the first Wednesday in December. All members should bear this in mind and be present.

THE first fall meeting of the Veterinary Medical Association of New York County was held at the Academy of Medicine in West 43d St., Wednesday, October 7th, at 8 P. M.

GEORGE H. BAILEY, D.V.S., State Veterinarian of Maine, had the misfortune to break his arm recently, and we regret that recovery is delayed by a complication, which may necessitate an operation.

FINANCE COMMITTEE OF THE U. S. V. M. A.—The following Finance Committee has been appointed for the ensuing year: Dr. W. Horace Hoskins (Chairman), Dr. J. B. Rayner, and Dr. S. Stewart.

THE AMERICAN HORSESHOERS' ASSOCIATION held a convention from Oct. 13 to 16, at the Park Avenue Hotel, New York City. A national organizer was appointed, and a general organization effected.

MARRIED.—Harri H. Dell, D.V.S., who graduated with honors at the last examination at McGill University, and has located at Sullivan, Ill., was married Sept. 30 to Miss L. E. Estelle Ratliffe, of Farmer City, Ill.

H. C. GLOVER, who has affixed the title "D. V. S." to his name while he registers by affidavit, was expelled from the N.

Y. C. V. M. A. He also sells patent medicines, both charges being contrary to the code of ethics.

WHAT has become of the Judiciary Committee of the V.M.A. of N. Y. County? Why don't they prosecute? Are they doing their duty? Members of the society, why don't you take them to account for the non-performance of duty?

PROF. W. L. WILLIAMS, late of Bozeman, Mont., writes from his new quarters in Ithaca, N. Y., that he is well satisfied with his change of location, and he feels that at Cornell University he has at last found the very field of work suitable to him.

DR. S. K. JOHNSON has been expelled from the County Society, on account of failing to sever his connection with a live stock insurance company, after several months' notice. Dr. Johnson is veterinarian to the company which treats horses free of charge.

PROF. A. LIAUTARD is back in his place at the American Veterinary College. During his trip abroad he obtained some new and beautiful slides of anatomical plates which when thrown on the canvas make anatomy comparatively simple for the student and aids him materially in dissecting.

PROF. LIAUTARD, who returned from Europe the latter part of September and resumed his important functions at the American Veterinary College with his old-time enthusiasm, is in excellent health, and appears to have discovered during his sojourn in sunny France the secret of perpetual youth.

THE next regular meeting of the Veterinary Medical Association of New York County will be held at the Academy of Medicine, 17 to 21 West 43d Street, near 5th Avenue, Wednesday, Nov. 4th, at 8 P. M. Veterinarians in counties adjacent to New York County are welcome to be present and join the Society.

ANSWER TO A CORRESPONDENT (H. H. M., MASSACHUSETTS.) —While the REVIEW solicits contributions from all legitimate members of the veterinary profession, the editors reserve the right to reject any which they are convinced are without merit. The communication in question is neither original, remarkable, nor interesting.

BOVINE TUBERCULOSIS IN NEW YORK CITY.—The board of health is making a thorough inspection of all milch cows kept within the city limits in order to exterminate tuberculosis. Of three hundred and eight animals which have been examined by the tuberculin test fifty-two have been found diseased and have been killed.—*Medical Record.*

A VETERINARIAN AND HIS "WHEEL."—Several of the far-western veterinarians were stopping over in Chicago on their return from Buffalo. Dr. Reynolds, of Minnesota, spent there several days visiting his old friends, making a call on the colleges, and taking a spin on the Boulevards around the city upon his inseparable wheel which accompanied him throughout his vacation trip to Buffalo.

A FLOURISHING ASSOCIATION.—A monthly magazine called *The Livery Stable*, in its account of the meeting of the U. S. V. M. A., at Buffalo, says that eight hundred members were in attendance. If its scare at the popularity of the bicycle is based upon the same exaggeration of facts, those who earn their daily bread in various capacities around the historic soliped have but little to fear from that source.

SUCCESSFUL HORSE SHOW.—Kansas City held its second annual horse show September 5 to 12. The number and variety of exhibits was quite large and very encouraging to the management, so much so that a number of prizes for next year were announced on the closing day. The interest continued throughout, the attendance increasing with each day. Dr. R. C. Moore officiated as veterinarian for the show.

SERUM-THERAPY IN HOG CHOLERA.—Mr. Harold Sorby, the wide-awake manager of the Pasteur Vaccine Co., Chicago, upon hearing of the success of Dr. Peters' paper on "Serum-Therapy in Hog-Cholera," read at Buffalo, had immediately a consultation with the doctor with a view of a practical utilization of his researches. Who can tell if fortune is not to follow fame with these young scientific experimenters in veterinary bacteriology.

HORSE-SHOW VETERINARY LAW.—The following rule in reference to veterinary examinations of entries at the Madison Square Horse Show, which takes place this month, has just been promulgated by the governing committee: "The veterinary examination of all horses shall be conducted jointly by two of the association's veterinary surgeons. Should they disagree as to the soundness of a horse, the third shall be called in, whose decision shall be final."

W. H. DALRYMPLE, M.R.C.V.S., of Baton Rouge, La., read a paper on "The Care of Live Stock," before the North Louisiana Agricultural Association, at Calhoun, Sept. 18th, and incidentally he gave a glowing account of his visit to the late meeting of the U.S.V.M.A. at Buffalo, and the efforts put forth to have the next meeting of the Association at Nashville, Tenn., claiming that this invasion of the Southern country by such a representative body of veterinarians would be of incalculable benefit to the cause of veterinary medicine below Mason and Dixon's Line.

ATTENDANCE AT WESTERN COLLEGES.—Reports indicate that the attendance of students at the Western veterinary colleges is very slight this year. This, however, appears to be equally the case with most of the medical and dental colleges, while it is a significant fact that all the educational departments of the large Western universities, notably those of engineering, are filled to overflowing with students. But this stagnation in professional colleges is natural enough if one considers the wild manner in which most of these colleges have been turning out their graduates during the last decade.

A BOOK ON POISONOUS PLANTS.—The Department of Agriculture at Washington is shortly to issue a large illustrated report on poisonous plants, and is making at present original analyses and tests of supposed poisonous plants with a view to accounting for the many mysterious deaths among domestic animals reported every summer from different sections of the United States. The study of poisonous plants and roots really belongs to hygiene, but as our American text-books on this subject contain only meagre reports, if any, the rural veterinary practitioner will heartily welcome such an authentic treatise.

HIGH PRAISE FROM HIGH AUTHORITY—A cultured veterinarian, whose good opinion the REVIEW is very jealous of, gave expression to the following comment in a recent letter, and although the letter was private, we take the liberty of reproducing it for the good it may do: "The REVIEW'S write up of the Buffalo Meeting was very complete, and must certainly prove highly pleasing and instructive to its readers. Such journalistic enterprise and ability cannot but add greatly to the popularity and growth of the REVIEW, and this report especially will greatly strengthen our Association. It certainly gave those members who did not attend a good idea of what they missed, and was so much enjoyed by all who were present. This report should bring you many letters of praise and congratulation."

A RESPECTER OF THE LAW.—Dr. Wm. Henry Kelly, Secretary of the State Board of Veterinary Examiners of New York, furnishes the REVIEW with the following correspondence, which explains itself (the names being omitted for obvious reasons): "*Regents' Office, Albany, N. Y., Sept. 17, 1896.—Mr.* ——: Dear Sir:—We are informed that you are violating the provisions of the inclosed veterinary law. Will you please give us the facts in this matter? Very truly yours, —— ——." To which the following reply was made: "Dear Sir:—I received a notice ingards of ackent a part of vetrinary. If it is me you mean it is not my name but I will answer it. If eny one has informed you of me Doctor horses it is not so. I have clipped a few horses and have floated some horses moths and if I have know right to do that will stop at once never gave any meadson to eny horse but my own. I would answer sooner but am in bussness in New York. and did not received Your note. Respectfilly Yours, —— ——."

NEW RULE ON INFECTED CATTLE.—A Washington dispatch says: "Notice is given by the Acting Secretary of Agriculture that cattle infected with Southern cattle ticks disseminate Texas fever, and that under the laws relating to the control of contagious and infectious diseases of animals the regulations of the Bureau of Animal Industry dated Feb. 1, 1896, are hereby amended by an additional section as follows: Cattle originating outside of the district described by the order dated Feb. 1, 1896, as amended by subsequent orders, and which are infected with the *boophilus bovis* ticks, shall be considered as infectious cattle and shall be subject to the rules and regulations governing the movement of Southern cattle. Stock-yard companies receiving such cattle shall place the same in the pens set aside for the use of Southern cattle and transportation companies are required to clean and disinfect all cars and vessels which have contained the same, according to the requirements of this department."

SWINE PLAGUE PREVALENT IN THE WEST.—Swine plague is pretty well disseminated this fall. There may be some States in the Central West where it is not rampant, but we do not know of them. It was supposed to be worst after a dry year; its outbreak now after the wettest year on recent record renders a new theory necessary. A late dispatch from Cincinnati gives some idea of the presence of the plague throughout the Ohio Valley: "The reports from the farmers in Ohio and Indiana of losses from hog cholera are alarming. The corn crop is very large, but the hogs are dying rapidly. The hog cholera has prevailed for some weeks and during the last week the losses have not only increased in the infected districts, but the disease is becoming general throughout the Ohio Valley." The West is very little better. Scarcely a State fair groud escaped an outbreak this fall. The visitation is particularly severe on farmers at this time when corn is so abundant and feeding cattle so scarce and high priced. In the face of such widespread devastation it ought not to be necessary to repeat the warning that every purchased pig should be quarantined on some out-of-the-way corner of the farm until danger of the disease developing has passed. Such precaution is the part of common prudence.—*Breeders' Gazette, Oct. 14.*

CRIMSON CLOVER HAIR BALLS IN HORSES.—The division of botany of the United States Department of Agriculture has recently investigated the cause of death of horses that have been allowed to feed on overripe crimson clover (*Trifolium incarnatum*), a species of clover recently introduced from Europe. The calyx of this clover is densely beset with stiff hairs, which at maturity become thick-walled, and doubtless, though not so stated by the department, the cellulose, constituting the young cell of which the hair is composed, is transformed into lignin, or some other substance indigestible for the horse. The surface of the hair is marked by sharp-pointed tubercles bent toward the apex. Taken into the stomach of the horse, these hairs form themselves into masses of a spherical shape. They are arranged with their bases toward the centre of the ball, this position being facilitated by the tubercles pointing toward the apex of the hair. When the balls reach a certain size, apparently in from a few days to several weeks, they pass into the intestines, where they form obstructions, causing intense suffering and death in a few hours following the appearance of the first symptoms. No bad effects are observed when the clover is eaten before the seed matures. The fatal effects have mainly occurred when the plants were allowed to fully ripen and the straw and refuse, after threshing, had been fed to the horses.—*Pittsburg Medical Review.*

AMERICAN VETERINARY REVIEWS WANTED.

Back numbers as indicated are wanted for the following files, and 25 cents each will be paid.

Nos. 5 and 7 of VOLUME XIX,—Dr. W. L. Williams, Cornell University, Ithaca, N. Y.

No. 5 of VOLUME XIX,—Public Library, Boston, Mass.

Nos. 5 and 7 of VOLUME XIX,—REVIEW office, 141 West 54th Street, New York.

AMERICAN VETERINARY REVIEW.

DECEMBER, 1896.

EDITORIAL.

VETERINARY DENTISTRY.

It is, we believe, a fact that this speciality of veterinary surgery is of American origin, and it is generally admitted that those of our confraternity who have given their attention specially to it have obtained a manual dexterity that is not always found in the ordinary general practitioner. It is by many considered merely as a matter of confidence in one's self —a confidence which will permit one to dispense with the so-often injurious mouth speculum, and then not only see, but almost do better, by adding to sight the delicate sense of feeling. It is certain that the manner in which our dentists and many of our graduates inspect the mouth, feel the irregularity and sharpness of the teeth, the condition of the rubbing surfaces, the state of health or disease, and with such an exhibition of confidence, of no fear to have one's hand crushed or even cut, would make many of the European veterinarians hesitate to use the same means.

American veterinary dentistry, though young, having been started but a few years ago by Dr. House, who by it made for himself quite a deserved reputation, has been the cause of much mischief and harm and injury. But still it has done much good and been of great advantage in many instances, among which we believe that recorded to us by Prof. Ryder, of New York, stands probably at the head.

Some five years ago the doctor was asked if he could not do something to relieve a horse of his bad habit of pulling. Having examined the animal's mouth he observed that the anterior borders of the first two lower molars were worn and notchy; he thought then to smooth them, and to file the upper and lower teeth in such an oblique direction that they would not touch each other by their front part, but form a V shape, with the base turned forward, the apex backwards. In the attempt the rubbing surface of the first and second molars of both jaws were thus filed and the contact between the teeth took place only from the third molar back. The result was more than satisfactory. The horse stopped pulling. Prof. Ryder applied this to other horses, who always obtained relief.

The result thus derived, though probably not answering all cases of pulling horses, is one that we believe is generally unknown to our colleagues at large, and which it is to be regretted Dr. Ryder omitted to have made known before this.

A question, however, has presented itself as a consequence of the operation, which is peculiar, and that is *whether or not an animal thus operated upon can be considered as unworthy a clean certificate of soundness at the time of purchase.* The mouth has been tampered with, the operation has for its object to *conceal* a bad habit, it deceives the purchaser, or at least has a tendency to deceive him, are the reasons invoked for an affirmative answer. It seems to us that the refusal of a certificate of soundness on that condition is at least an exaggeration on the part of the surgeon who makes the refusal, and that the letter and the spirit of the law do not justify it. An animal whose long teeth have been shortened to make it appear younger to the careless observer is not considered unsound for that reason; one whose teeth have been bishopped to conceal his age is not rejected as unsound; one whose molars have been nipped, cut, or filed because of their irregularity and length, which prevents him from chewing, is not refused the certificate demanded by a purchaser, and yet their teeth have been tampered with, just as much as when filed to prevent his pulling, with the exception that the essential condition of his usefulness has been improved and that would scarcely be a detriment to his value or a prevention to his doing good work, satisfactory to his owner.

Be this as it may, the operation of filing the two front molar teeth, in an oblique direction, to prevent a horse from grabbing the bit between them, and arrest his pulling, is an addition to our means of relaxing a bad habit, which is due to American veterinary ingenuity and observation, worthy of entering into general practice.

THE ARMY BILL.—There is no doubt that veterinarians are in earnest this year in their efforts to give assistance to the Committee on Army Legislation of the United States Veterinary Medical Association. Most of the efforts which have come under our observation are most intelligent and well-directed, but that of the New York State Society is especially systematic and effective. The energetic and earnest Secretary of that Society, Dr. Claude D. Morris, has sent to fifty prominent veterinarians resident in the various congressional districts of the State, a copy of the bill and the report of Adjutant-General Geo. D. Ruggles, together with a thorough analysis of the merits of the Army bill, with the following letter of request to the veterinarians:

NEW YORK STATE VETERINARY MEDICAL SOCIETY.
SECRETARY'S OFFICE,
PAWLING, N. Y., November 2, 1896.

MY DEAR DOCTOR: I enclose you a copy of a bill which has been favorably reported by the Committee on Military Affairs in the Lower House of Congress. You will see that the purpose of the bill is to give rank to veterinary surgeons employed in the United States Army. It needs no argument to prove that this is a step in the right direction. The enactment of this bill would establish the profession in the army in a position which it has a right to enjoy, thus making the services of the veterinarian in the army of far greater efficiency than is possible in his present condition. Under the enactment of this bill the veterinary surgeon would be a commissioned officer of cavalry, having rank and authority. The bill is not in the interest of a favored few. It's in the interest of the profession at large, asking for position of rank and social standing in the United States Army. Will you see your Member of Congress, and, if possible, get him to commit himself, that he will support this bill at the coming session of the House of Representatives. Please report to this office the result of your efforts in this matter at as early day as possible.

I beg to remain most sincerely yours,
C. D. MORRIS, *Secretary*.

We have no doubt but that the method of the New York

Society will be productive of much good, since it is directed at the very foundation of the law-making power, and an attack upon the same force in other States cannot but bring this just and long-delayed cause in its proper aspect before those who should be made to understand the true merits of the appeal.

A TEST.—Notwithstanding the fact that a law, with a number of amendments, exists in the State of New York requiring all practitioners of veterinary medicine to register at the county clerk's office and to obtain the necessary State certificates or licence, it is a well-known fact that there are many in that State who ignore the law and go on practising here and there, to-day in that city, to-morrow in another. Through the exertions of the Committee of the Veterinary Society of the County of New York, of which Dr. O'Shea is the chairman, it has been decided that the validity of the law should be tested, and to that effect, at one of the last meetings of the Society, measures were voted authorizing action of the committee. A gentleman from Kansas City was known to be practicing in New York for some time without having complied with the law ; a warrant was obtained for his arrest, and was executed as he was about entering the Horse Show. When arrested he claimed that he had heard that he was going to get into trouble, and that then he sold his instruments and went out of business. We hope that the explanations will not allow him to escape the punishment imposed by the law. The Veterinary Society of the County of New York has done well and deserves great credit for its action. Veterinarians of the State will no doubt send their congratulations to the chairman of the committee, who, we are informed, did on that occasion, as he always has done when working in similar capacities for the benefit of the profession, acted quietly and modestly, being satisfied only with the good that resulted from his efforts.

SECTION WORK IN THE U.S.V.M.A.—We are pleased to note that the observations made by this journal in its account of the late meeting of the National Association in Buffalo in reference to the prosanitary character of the deliberations is beginning to bear fruit. The REVIEW made no complaint that the great and all-important question of State medicine was receiving too much of the attention of the association; but that the interests of the everyday practitioner were receiving too little; were being crowded out by the papers and discussions upon the subjects of tuberculosis, hog cholera, etc. We are, therefore, gratified to find in the November issue of our esteemed contemporary, the *Journal of Comparative Medicine*, an advocacy of the system of section work in the association, and offering its pages to members for the discussion of the means best suited to produce these ends. The REVIEW enters heartily into the question, and will be glad to publish any suggestions which its readers may have to make in furthering this aspect of the work. The journals should be the forum for the free discussion of policies looking to the advancement of our profession, and the preliminary work of the convention of 1897 can be transacted largely through the opportunities thus afforded.

VETERINARY HOMEOPATHY.—Elsewhere in this number of the REVIEW is printed a paper read before the last meeting of the Pennsylvania State Veterinary Association by Dr. Jacob Helmer, of Scranton, and it is one worthy of careful reading by the members of our profession, as it is the outcome of a considerable amount of earnest thought and intelligent experiment and observation by a very bright student of scientific medicine, especially in the relation of science to practice. We are disposed to believe that the results obtained by Dr. Helmer are those which would naturally follow the application of that system of medicine upon our dumb patients. The younger members of our profession are prone to seek some distinctive method of practice, and they would gather much wisdom by a careful perusal of the conclusions of one who has thought much and thought well.

VETERINARY EXAMINERS OF MARYLAND.—We acknowledge the courtesy of Dr. A. W. Clement, the efficient secretary of the State Board of Veterinary Medical Examiners of Maryland, in sending us a copy of a little pamphlet recently issued by them giving a list of all veterinarians registered in that State, together with their law, and the act creating the State Veterinary Sanitary Board for the control of contagious and infectious diseases. The work is the outcome of the individual enterprise of the members of the board, who hope to be reimbursed for their outlay from the sale of the book. It is a valuable reference book, and will be of great assistance to all requiring such a compend.

ORIGINAL ARTICLES.

HOMEOPATHY IN VETERINARY PRACTICE—WHY I DO NOT PRACTICE IT.

By Jacob Helmer, D.V.S., Scranton, Pa.

A Paper read before the Pennsylvania State Vet. Med. Association, at Reading, Oct. 6, 1896.

Systems of healing, like those of religion, attract their following by virtues real or imaginary. Attracted by superior virtue, intelligent and honest men have forsaken one form of religious belief for another or have abandoned a mode of healing which circumscribed their ability and skill. This is right. It shows a spirit of progression. Investigation is the mother of progress.

Articles tending to show the advantages of homeopathy over the regular treatment in medicine and the reports of success with remedies applied according to this system have appeared in our journals as evidence of a progressive tendency on the part of the writer. But the experiences reported have to the extent of their influence tended to array homeopathy against the regular practice; that this was not the motive is evident from the diffidence as well as the acknowledgment of limited experience in this mode of healing. Charlatans have, however, thus arrayed the two systems, and by dint of assertion and persuasion have crowded themselves upon the field of veterinary medicine with the object of selling their wares. Compilations of veterinary homeopathic materia medica have been issued ostensibly with the same purpose of advertising and selling their wares. Translations of foreign homeopathic veterinary works are offered. Under the law of competition such things are natural. It is called business. But we are the representatives of science in our field. By means of recorded observations we build the substantial edifice of veterinary science. We would not remove a stone from this edifice if we could not replace it with a better one. The question is, can we to any extent reconstruct this edifice on the principles of homeopathy? My note-book discloses that during a period of two years we treated diseases with the homeopathic and regular methods in order to form an idea of their comparative value. By comparison we see quickly the perfections and imperfections of the things compared.

History shows that the *regular* or *rational* school of medicine has been a development unhampered by any restrictive tenets. Its foundation stones are reason, experiment and experience. Its *aim* has been *truth.* It accepts truth from any quarter. Recognizing disease as an entity it has developed the sciences that include the phenomena of causes, viz., anatomy, physiology, biology, pathology, morbid anatomy and bacteriology. Operating in sympathy with nature's laws, it seeks to remove causes. It does not claim to cure disease, but recognizes the healing power of nature. It uses every reasonable means to accomplish results. It stands ready to reject the ideas and methods of yesterday, if it can substitute better ones to-day. It is progressive. It is not an exclusive system. It has not discovered any universal law of therapeutics. It does not claim to have found any law in nature either of similars or opposites according to which drugs exclusively influence the animal organism. It has witnessed the birth and death of exclusive systems. It needs not to go outside of itself, in direct disobedience to the principles of any founder, and appropriate the good of all in order to save its very life. It does not owe its success to credulity and superstition. It has been the most successful. It has not been driven by time and discovery to the humiliating spectacle of modifying and eliminating itself until scarcely anything remains but its flag.

On the threshold of experience with any method of treatment we must first learn its principles, conform to its rules and accept the conditions it imposes upon us. The work announcing and elucidating the principles of homeopathy was published by its founder, Samuel Hahnemann, in 1810. He named it "*The Organon of the Healing Art.*"

On page 103 of the "Organon" he says: 1. *Similia similibus curantur* (likes are cured by likes) is the only therapeutic law—that is to say, the only salutary treatment is that method according to which a disease is combatted by a medicine capable of creating in the healthy body symptoms most similar to those of the disease. 2. The totality of the symptoms is the only guide to the physician in the administration of remedies—that is to say, every drug, before it may be properly employed in treating disease, must first have been administered to a person in health, and the symptoms produced thereby recorded in order that their similarity or dissimilarity may be compared with those from which a patient may be suffering for whose relief a drug is sought to be administered. All that the physician may regard as curable in disease consists entirely in the complaints of the patient and the morbid changes in his health perceptible to the senses. 3. The only true method enabling the physician to select the proper remedies in disease is to prove them upon persons in health. That is to say, every drug before it may be properly employed in treating disease must first have been administered to a person in health and the symptoms produced thereby recorded in order that their similarity or dissimilarity may be compared with those from which a patient may be suffering, for whose relief a drug is sought to be administered.

To be consistent with these principles and to obey this therapeutic law we must experiment upon the various classes of the lower animals to find what drugs will produce symptoms similar to the symptoms of diseases we desire to cure. But has this been done for veterinary homeopathy? (if I may be permitted to use the expression). Some authors on veterinary materia medica are silent on this point. Another speaks of careful provings having been made, but we have seen no record. But we know that animals have been utilized by the regular school as well as the homeopathic to demonstrate the toxic power of remedies to be used in the treatment of human diseases.

But, admitting for the sake of argument that careful provings have been made upon different species of the lower animals, the results obtained are meagre, since only the objective symptoms produced by the drug can be noted. But some of the objective symptoms thus noted are unreliable, especially such as relate to the disposition and movement of the animal. Here it requires the discrimination of the prover to determine whether this class of objective phenomena are the primary result of the drug or are secondary to some influence produced by the drug.

Hence the symptoms which may be considered reliable, obtained by proving drugs upon the lower animals, are those indicated by the pulse, pupil, conjunctiva, the visible mucous membranes, the skin and the excrements of the body. But the therapeutic laws of Hahnemann demand all possible symptoms obtainable from the action of a drug on every organ and tissue of the body. The subjective symptoms are, therefore, indispensable in a system in which symptoms are everything and morbid conditions and causes are nothing. "They fancied," says Hahnemann, "they could find the cause of disease, but they did not find it, because it is unrecognizable, and not to be found, since by far the greater number of diseases are of a dynamic (spirit-like) origin and nature; their cause, therefore, remaining unrecognizable."

Observe that in the second part of the law quoted from the "Organon," it declares that the totality of the symptoms is the only guide to the physician in the administration of remedies. To meet this ever-varying totality of symptoms and to find their correspondences it has been found necessary to conduct extensive provings. The homeopathic encyclopedia of pure materia medica is an evidence. It consists of ten large octavo volumes of about 700 pages each; but if only the objective symptoms of the proven were necessary to establish the system of homeopathy such extensive provings would not have been made. But the subjective symptoms have been considered indispensable both to better fulfil the law of similia and to find remedies that will do better work.

But limitation to the intelligent and successful practice of veterinary medicine may be shown in another way, and this directly attacks the integrity of the therapeutic law upon which homeopathy is based. In my experience, the infinitesimal dose does not appreciably affect animals either in health or disease, but doses large enough to cause appreciable symptoms in the pulse, pupils, muscles and mucous membranes, if administered in a disease characterized by the same or similar symptoms, will intensify those symptoms instead of relieving them. This you have observed in the use of belladonna, aconite, nux vomica, etc. Therefore, the law of *similia similibus curantur*, practically followed, as we must follow it in veterinary practice, becomes null and void.

A consideration of the breadth and scope of the rational system applied to the practice of veterinary medicine, when compared with the limitations naturally imposed upon the homeopathic system, when it deals with the maladies of the lower animals, ought to weigh in favor of the former method, and, unless it can be shown that success is more common and certain in homeopathy, ought of itself alone to deter one from adopting a circumscribed method.

Homeopathy in veterinary practice, finally, means to become a merely routine practitioner. To rely for success upon a supposed specific judgment, discrimination and skill can only be exercised in the selection of the remedy. Symptoms are everything.

Causes and morbid conditions are nothing. It is not necessary to know the nature of a remedy, how it acts, or upon what it acts. If its symptoms correspond to those of the disease the physician has done his work well. This reduces the practice of medicine to a simplicity.

Homeopathic remedies consist practically of tinctures and triturates. The tinctures are about the same strength as those of the U. S. P. The metallic and insoluble remedies are prepared in milk sugar and dispensed in this form. The strength of a remedy is its dilution or potency. To produce a uniform series of dilutions a scale was introduced by Hahnemann, called the centesimal scale. According to this scale one part of the mother tincture or powder is mixed with 99 parts of alcohol or milk sugar. This forms the first dilution or potency. One part of this dilution in 99 parts of alcohol the second dilution. The principle is that the first potency must contain $\frac{1}{100}$ part of the strength of the remedy and the succeeding potencies each $\frac{1}{100}$ part of the preceding one.

But more recently another scale has been introduced—the decimal scale. By this scale one part of tincture is diluted with ix parts of alcohol, and similarly with the powders, one part in ix of milk sugar to form the first potency. In respect to the size of the dose authorities vary; some recommend the higher potencies, those above the 30th. Others the 30th potency. Others the third dilution of tincture and the sixth of insoluble remedies.

But an exception is made of carbolic acid, aconite, rhus tox., bryonia and others which may be used in the first or even in the form of the mother tincture. In applying homeopathy with the object of testing its value in treating the diseases of the lower animals it is necessary to form at least two classes, these were the acute critical and the acute non-critical. Of acute non-critical cases one-half were treated with homeopathy and the remainder with no medicine. In non-critical cases of pneumonia treated with high or low dilutions or with no medicine I could find no substantial difference. The cases ran the course marked by various changes in each case according the natural history of the disease and the age, temperament and vitality of the patient. There were differences, but it was not reasonable to refer them to anything besides natural causes. There was no noticeable effect of the remedy upon the pulse, respiration and temperature. Practically in horses I found no difference between the first or third or thirtieth potencies in non-critical cases of pneumonia. In acute non-critical cases of disease in the horse of whatsoever nature the experience was the same. The hygiene and diet were made the best possible. The superiority of the regular treatment was established in its power to abort colds and incipient diseases of the respiratory tract. In some acute critical cases nature seems powerless when rational treatment may and does save life. Rational after-treatment lessens the convalescing period and prevents relapses. I had no success with homeopathy in cases of toxic poisoning. In cases where pain was an element to subdue. In impaction of the bowels, anæmia, vitulary fever in cattle, azoturiea, colic, chorea, diabetes insipidus, laminitis, tetanus, purpura, rheumatism, and collapse. I do not mean that cases so treated did not recover, but cases treated *placebo* recovered. But the action of the remedy could not be traced, no desired effect could be produced. My tools were not tools. But acute critical cases will do better without medicine, unless such treatment be intelligent and not a hindrance to nature. Regular treatment not intelligently used is worse than no treatment. Here homeopathy may win a few laurels and somebody think they have made a valuable discovery. An unsuccessful regular practitioner in using drugs to alleviate disease, can become a successful homeopathist. Nature's tendency to heal must be fully recognized. In cases in which the regular treatment was of no value in my hands, homeopathic treatment did not demonstrate its superiority.

In the study of the principles of homeopathy one is surprised at the large number of the same or similar symptoms produced by drugs of a dissimilar nature. Again, the number of diseases dissimilar in their nature and manifestation that are treated by the same remedy. Gunther mentions eighteen remedies useful in paralysis and indicates that there are many more. Haycock uses arsenic in abont fifty diseases of the lower animals; aconite in over thirty diseases. Do all these dissimilar diseases have a totality of symptoms to correspond to the totality of the symptoms produced in an animal by a single drug? But it occurs that the symptoms of a disease may be removed in an animal and the morbid condition remain. Again drugs do not produce the same or similar symptoms in healthy animals that are produced by some maladies which are treated by these drugs. Strychnine does not produce symptoms like paralysis, but it is used in paralysis by homeopaths. If the therapeutic law of Hahnemann were true most maladies would be incurable.

Homeopathy is not based on nature, but upon nature's most superficial and variable phenomena—symptoms. No system can become scientific on such a basis. A few years ago I joined a class in Christian Science. In this system patients were cured of their maladies of whatsoever nature; ruptures were declared healed; tumors were dissipated; rheumatics threw away their crutches, and bed-ridden subjects walked again. It looked like an era of miracles revived.

The founder of Christian Science in America, Mrs. Mary B. G. Eddy, was a homeopathic physician. In her work, "Science and Health," she says, speaking of fevers, such as scarlet, typhoid, etc., that the higher the dilutions given the better success. She says it is not medicine but mind that heals. From this experience Mrs. Eddy thought she had discovered another proof of the power of mind to heal. But Dr. Robert Bartholow, in his work on "Materia Medica," says, speaking of the same subject: "Since we have learned the natural history of certain fevers, such as scarlet and typhoid, we find they can be most successfully treated with little or no medicine." Here was the secret and the truth. Christian Science condescended also to treat animals. We tried it. It was "weighed in the balance and found wanting." Were it not for human ignorance and credulity Christian Science would have no following. But side by side with the boasted cures of Christian Science, I place the boasted cures of homeopathy and refer both these systems to nature, the only healer. But what benefit can these systems hope to achieve in treating patients that can exercise neither faith nor imagination? But the homeopathic physician of to-day is instructed in anatomy, physiology, pathology and allied sciences. He tells you that under the privilege of expedients he may employ by any means a remedy or a dose in order to effect a cure. But here the law of *similia similibus curantur* practically ends. Only in a very limited sphere is the great therapeutic law subservient, and in that sphere mind cure and homeopathy meet.

In order to correct a wrong impression and one apparently shared by some physicians, let me state here that there is no Allopathic School. Hahnemann coined the word allopath and applied it to those opposed to his principles. To be an allopathist would mean to be a member of an exclusive school. The principles underlying our school have been already mentioned. Again we are spoken of as the "Old School," in contrast with the "New School," meaning homeopathy. If by this is meant that ours is a school of antiquated and non-progressive ideas the name does not fit us. What valuable discoveries have been made in medicine that were not made by the regular school? No one will assert that homeopathy has placed a stone in the edifice of pathology or added any fact of value to medicine. The great therapeutic law of homeopathy was not original with Hahnemann. Paracelsus had announced it 300 years before Hahnemann had his practice and begun to experiment upon the action of drugs upon persons. The results obtained he called provings. To-day provings yet constitute the mass of homeopathic literature. By careful provings it is shown that drugs may produce almost an endless number of symptoms; from 2000 to 3000 having been recorded of some drugs. Dunham says it is scarcely possible to analyze the actions of belladonna upon the human system. But a comparison of these provings shows that many drugs of opposite nature will give the same proving. That the provings include the sensations of the organism that occur during the proving period (but independent of drug influence) there can be no doubt.

One thing, however, was original with Hahnemann. It was the idea of the infinitesimal dose; the potentizing of drugs. He believed that the higher the potency the greater would be the power of the drug. None were high potencies unless above the 30th. No known method of science can detect a trace of medicine in a potency above the fifteenth; scarcely above the third. It cannot be the medicine, then, that is so powerful to cure. It is now held to be the potentiality produced by giving the vehicle containing the drug a certain number of shakes. Twelve shakes for a tincture and so many turns for a triturate. The more shakes and turns the more power in the remedy until it may become very dangerous. Every drug is held to have a certain definite molecular activity, which by shaking is imparted to the vehicle. Thus the vehicle becomes the remedy. It in turn imparts its molecular activity to the diseased protoplasm, which it restores to a normal condition. But this modern and ingenious explanation has not and cannot be demonstrated. It is not, therefore, of any scientific interest. But, as before mentioned, since the safety of the law of similars depends upon the infinitesimal dose, it becomes necessary to resort to ingenious theories to prove there is virtue in the medicine prescribed in this manner. But we are not informed why the vehicle does not impart its molecular activity to the drug or why the drug as it grows infinitely less in higher dilutions yet imparts an increased molecular activity. Hahnemann taught that when an insoluble substance was raised the 3d potency in milk sugar, to obtain the 4th potency alcohol might be used, since the drug at this potency becomes soluble. It is to be presumed that his sense of sight and taste gave him all his knowledge of chemistry.

There are upwards of eight hundred remedies in the homeopathic pharmacopœa. The U. S. P. contains less than one half that number. The remedies are drawn from every department of nature ; some of them will be regarded with curiosity and surprise. Apis mellifiæ is made from the stingers of bees. Lachesis from the venom of a poisonous snake. Lyssin from the saliva of a mad dog. Vulpis hepor from the liver of the fox. Mephites from the odor substance of the skunk. Psorinum is prepared from the pus of the human itch. A tincture has been prepared from the pus of gonorrhœa and administered internally to cure that disease. The insect world furnishes the bed bug, cockroach, house fly, head louse, wood louse, ant, potato bug, spider and others. These insects are crushed and their juices received into alcohol or milk sugar. These tinctures are used for internal medication. The tendency to use the remedies and doses of the regular school of medicine has become general among progressive homeopathic physicians. A travelling man for a wholesale drug house informed me recently of his having good customers in the homeopathic fraternity. That he sold more tablets to homeopathic than to regular physicians.

The homeopathic physician who a number of years ago urged me to practice veterinary homeopathy and who treated me with homeopathic remedies, gave the following prescription to one of my acquaintances : Potassi ; iodide, ʒ iv ; stillingii, fl. ext., ℥ ss ; syr. sarsaparill. co., ad ℥ iv. Sig., etc. I reproached him with : "Doctor, is this homeopathy ?" His reply was, "What difference does it make if the medicine will do the patient good ?" These illustrations show that the law of "similia" is not sufficient and is only partly adhered to and then in minor ailments of the human family and in maladies that require more nursing than medicine. The Homeopathic Society of New York in 1879, by a vote of thirty-three to fifteen, resolved that in the treatment of disease the formula *causa sublata tollitur effectus* (cause and effect) is often to be remembered and used to advantage.—(Browning on "Homeopathy.") In a recent number of the *Homeopathic Monthly* Dr. Duke makes the broad statement that the law of similars is not applicable to any diseases which are characterized by destruction of tissues, or where the cause cannot be removed, or to such as are due to chemical action, mechanical violence, or unhygienic surroundings.—(Browning on "Homeopathy.") The *Medical Investigator* (a homeopathic publication) in 1876 said reprovingly : "How many claiming to be homeopaths are entirely disregarding the law of *similia.* It is getting to be quite a rare thing to hear of a homeopathic practitioner conducting a serious case from beginning to end without using as such cathartics, sudorifics, diuretics, etc., in direct opposition to our law."—(Encyclopædia Brit., 9th Ed.) Says a writer in the *Homeopathic Times :* "To give one or more persons a drug, and register all their peculiar fancies and ideas, does not furnish any reliable evidence of the real effects of the drug." Says one homeopathist ; "The question of potencies seems to have aroused a spirit of contention in the homeopathic fraternity about as bitter as any between the old and the new." Dr. Kidd says : "I have cast dynamized drugs *in toto* as untrustworthy and unjust to the sick."—(Browning on "Homeopathy.")

With the homeopathic house divided against itself—with modern medical discoveries tending away from and not toward the doctrine of *similia*, isopathy is in no scientific sense like homeopathy. With the achievement of excellent success in the field of veterinary medicine according to the rational principles of the regular school, with boundless scope for the exercise of inventive genius and investigation afforded by a system of medicine that is bound by no law, but is free to work out the secrets of nature in her department through the exercise of observation, experiment and reason and thus to eliminate error and arrive at truth, should we not be proud to be workers in such a field? To any who wish to investigate this matter I refer them to works from some of which I have quoted, viz., "The Organon of the Healing Art," "The American Homeopathic Pharmacy," "The Homeopathic Encyclopedia of Pure Materia Medica," "Hahnemann on Chronic Diseases," Gunther, Haycock, and Boerichs and Tafel on "Veterinary Materia Medica," "The Encyclopædia Brit.," 9th Ed. Also to an admirable essay on "Homeopathy," by Dr. Browning, of New York.

NEUTRAL RED IN HISTOLOGY AND BACTERIOLOGY.

By Pierre A. Fish, D. Sc., D. V. S., N. Y. State Veterinary College, Ithaca, N. Y.

Neutral red (*Neutralroth*, *rectif. nach Ehrlich*) in weak solutions of 1-10,000 or thereabouts, has been demonstrated to possess considerable efficiency in the staining of vital tissues, but some difficulty has been experienced in finding a trustworthy mordaunt to prevent the dye from washing out of the stained tissues too readily. For the study of living protozoa it has proven of considerable service, but for higher forms which must undergo killing, imbedding and sectioning, there have been manifest difficulties encountered. Quite satisfactory results, however, were obtained in the case of a tapeworm (*Dipylidium*) found in a dog. The living worm after an immersion of 12-15 hours in normal salt solution with enough of the neutral red salt to tinge the fluid, became markedly colored but somewhat shrunken owing to the difference in the temperature. In order to avoid the removal of the dye from the specimen and to prepare the tissue for the subsequent processes some of the segments of the worm were immersed in a 3 to 5 per cent. solution of formalin also tinged with the dye. After 12-24 hours the tissue was thoroughly fixed and there was no diminution in the color. The subsequent treatment was that as ordinarily employed for *in toto* staining. The superfluous stain was removed during the passage of the tissue through the alcohols, and the specimen, after dehydration and clarification was mounted in balsam.

Portions of the vertebrate nervous system have also been simultaneously fixed and stained *en masse* in the formalin-neutral red mixture, and, after imbedding in collodion or paraffin, have been sectioned and mounted with very satisfactory results. Section staining has also resulted very satisfactorily, if the sections are treated with absolute alcohol immediately after staining. With lower percentages of alcohol the color is generally all washed out by the time the tissue is dehydrated. The dye is also soluble in most of the clarifying reagents, so that in order to obtain the best effects the absolute alcohol should be allowed to act only just long enough to dehydrate the tissue, then clarify with xylol (which does not remove the dye) and mount in balsam.

The dye seems to have an especial affinity for the chromatin of the cells, staining this substance more or less intensely and leaving the remaining tissue colorless. Under proper conditions it would seem as if it might exert some special action on the neutrophilous tissue elements.

In addition to its histological uses neutral red has been found serviceable for some bacteriological purposes. As the name indicates the salt is of a neutral character, and a trace of it in a small beaker of water causes the mixture to assume a pinkish color. This solution has been found useful as a test and a more delicate one than litmus paper for determining the alkalinity of culture media. If the media be acid or neutral there is no marked change in the red when a portion of the media is added unless there be a slight deepening of the pink color; but if the media be alkaline and a few drops be added to the neutral red solution and slightly agitated the mixture immediately changes to a brown color.

In aqueous solutions the neutral red, if treated with either sulphuric, hydrochloric or nitric acid, at first shows no change, but if a sufficient amount of either acid be added the color changes from red, first to purple and then to a deep blue. If acetic acid be added to the aqueous solution of the neutral red there is no change except perhaps a slight deepening of the color.

In an alcoholic solution, the neutral red presents a light brown or amber color; upon the addition of an alkali (sodium hydrate) this is not changed except for a general lightening of the color due to the dilution. If the alcoholic solution be treated with hydrochloric acid added in increasing quantities it changes first to a red and then to a light blue; if treated with nitric acid the solution changes to a red and then to a dark blue; if sulphuric acid be employed the change is first to a red and then to a bottle-green color. Acetic acid changes the alcholic solution to a pinkish-red color.

As a result of these crude experiments, the idea quite naturally presented itself that the neutral red solution might be incorporated with the culture media and the reaction of the different bacteria observed directly during their growth. In the experiments which followed a number of micro-organisms were utilized among which were the following: bacillus choleræ suis, Proteus vulgaris and mirabilis, bacillus of diphtheria, bacillus fluorescens liquefaciens; bacillus anthracis; comma bacillus; bacillus typhosus; bacillus acidi lactici; staphylococcus pyogenes aureus and a yellow sarcina.

The report of the results is purposely crude and generalized. A few certain well known and representative forms carefully tested with the various media under different conditions would do much towards elucidating the possession or absence of specific chemical reducing powers.

In the preparation of the cultures a $\frac{1}{5}$ per cent. solution of the neutral red salt was used. This was thoroughly sterilized, and then with a sterilized pipette ten drops of the "red" was added to the already sterilized media (bouillon, agar, or gelatin). The proportion being approximately 10 drops of the $\frac{1}{5}$ per cent. solution of the red to about 8 cc. of the media. The resulting mixture was a bright garnet red color.. Besides the ordinary tube and plate cultures, fermentation tubes containing glucose, saccharose and lactose were utilized. As in the case of the others, the neutral red was added to the already sterilized media; but on account of the admission of more or less air when the red and media were mixed, the fermentation tubes were again heated in the sterilizer and the bubble of air in the closed tube tilted out so that the reducing properties of the mixture might not be interfered with.

The results obtained, with the various media employed and the action of the different micro-organisms upon them, may be briefly summarized into two general classes of phenomena:

1. Those organisms which change the garnet red media to a fluorescent and then to an ultimate brown color.

2. Those which do not cause fluorescence nor change the red color except to deepen it.

In general the fluorescent and brown color indicate an alkaline reaction; the red the presence of an acid or a neutral condition. Between these two groups some intermediate conditions may be found, as for instance, when the media may contain a greater or less amount of grape sugar, certain of the bacteria may give, at first, an acid followed by an alkaline reaction; or an apparently opposite condition may be shown as in one case of the bacillus coli communis grown in a fermentation tube of glucose. There soon appeared the fluorescence but the litmus paper demonstrated an acid reaction, later the fluorescence disappeared and the characteristic red (acid) color returned.

The change of the red to the fluorescent and brown color is, in general, caused by the alkalinity; but it will also be remembered that alcohol turns the red to a brown, and that with the proper conditions as to the presence of grape sugar and reaction of the bacteria, some alcoholic fermentation may be set up, which in the above mentioned case of the bacillus coli in glucose, may account for the unexpected fluorescence with an acid reaction and likewise be of some service as a test for alcohol.

When fluorescence does occur in the fermentation tube it is usually more distinctly shown in the closed tube than in the bulb. The greater volume of the fluid in the latter is perhaps the explanation for this.

Rather an unusual amount of crystallization developed in the agar and gelatin media. While this phenomena is not uncommon in these media as ordinarily used, the addition of the red seemed to develop the crystals quite constantly and in unusual quantities. They were quite inconstant as to color, size and form, in the different species and the variations met with in these respects, although perhaps of no use diagnostically, seemed, nevertheless, worthy of mention.

'94 Ehrlich. Ueber Neutralroth, *Zeit. f. wiss. Mikros.* XI.—250. [Abstract.] Aus dem Bericht "Uber dem Ehrlichschen Vortrag im Verein für Innere Medicin" zu Berlin 18/12, 1893. *Allgem. Med. Centralzeitg.* 1894. No. 2, p. 20.

'94. Galeotti Gino. Recerche sulla colorabilita delle cellule viventi. *Zeit. f. wiss. Mikros.* XI. 172-207.

DIABETES MELLITUS IN DOGS.

By Frank H. Miller, V.S., Burlington, Vermont.

(*Concluded from page 552.*)

Case No. 5.—White poodle, male, 10 years of age, brought to the institution for humane destruction, which was speedily carried out by intra-thoracic injection of hydrocyanic acid. No history whatever could be obtained, but, owing to the extremely fat condition, accompanied by perfect bilateral cataracts, a small quantity of the urine was obtained and tested, and according to Trommer's method, yielded sugar in abundance. The fermentation estimates indicated nearly 9 per cent. of grape sugar present. Owing to the hour and to the fact that such animals as are not officially entered as inner patients are not examined in the Pathological Institute, I had the opportunity to witness a somewhat rapid but instructive examination, conducted by one of the assistants. The entire viscera appeared by gaslight to be in a healthy condition. The kidneys especially seemed to be in a remarkably good state, considering the kind of patient and the age. On most thorough microscopic examination of the pancreas, liver and kidneys by my American friend, Dr. T. Klingmann, of Virchow's Labratorium, and myself, we found the liver to be fatty metamorphosed and especially at that part of the aceni lying toward the venæ centralis, the cells being in great part obliterated; kidneys normal. The pancreas was shrunken in its histological elements, and was in various parts fatty infiltrated and in others fatty metamorphosed. The neucleoli were for the greater part obliterated and dense fibrous tissues penetrated the aceni in various directions.

Case No. 6.—Male, 10 years old, white terrier, was presented at the polyclinic for small animals, June 5, 1896 (same day as case No. 5 came under observation), with this history: He had always enjoyed good health until about three weeks ago, when he suddenly developed blindness in both eyes, and had shown great exhaustion in moderate exercise during warm weather, and drank inordinate quantities of water, passing urine more frequently than before. Appetite good. Urine obtained by catheter was pale, but opaque, and held albumen in goodly quantities, 1035 specific gravity, and by test gave sugar in abundance; the quantity of urine, however, would not admit of thorough quantitative analysis. He was, by request of the owner, destroyed, and on rapid examination the thoracic organs appeared quite normal. The liver was fully one-half enlarged, and of pale, brick-red color, with yellowish tinge; consistency was friable, and on cross section appeared cirrhotic. The aceni were well marked off by interstitial connective tissue; gall ducts pervious, and gall sack moderately filled; slight duodenitis. The pancreas appeared very large and thickened and firmer than is usual, and was studded by a few isolated pale spots, but which was different from the rest of the organ by color alone rather than consistency. The other organs had a normal appearance. Abdominal fat much marked. The cataracts were lenticular and quite firmly organized; indeed, at the neucleoli feeling almost cartilaginous. At the margin of the spleen was seen a tumor of robin's egg size, with a smooth covering of Glisson's capsule. This upon closer examination was found to be a small hæmatoma of long standing.

The microscopical examination of the organs, which was also followed out in the Virchow Labratorium gave the following results: Diffuse fatty degeneration of the entire liver. The outline of the aceni being in great part indefinable. Kidneys showed granular degeneration of the glomerular epithelium, and in patches was entirely absent. There was also similar changes noted in the epthelium of the straight tubules. The pancreas was very much increased in its connective tissue at the expense of the aceni, which were markedly shrunken and the epithelium was in part in a state of fine granular degeneration; in other large sections there was a complete change to fat, and only in rare cases was it possible to define an apparently healthy portion of glandular tissue.

These comprise the cases seen by me at the clinic, but I will refer to another authentic case which I found of interest.

In speaking of this disease in the company of certain American medical practitioners studying at Berlin, one of those gentlemen, Dr. A. E. Tausig, of St. Louis, a student in the laboratory of Salkowski, expressed surprise that the disease was accounted rare among animals, and related to me a case which developed in one of his own dogs. I will quote from a written report which he was kind enough to give me.

"Male mongrel dog, about 13 years of age, no family history obtainable, no previous illness, took but little exercise. For about one year previous to his illness the thyroid gland had enlarged until it was nearly as large as one-half the closed hand, soft and movable. This was unaccompanied by other symptoms. Later polyuria was seen, and the animal, heretofore of correct habits, began to urinate in the living apartments. This tendency so increased that he was of necessity banished to the cellar. Analysis of the urine showed grape sugar in large quantities. No direct quantitative analysis was made, however. Thirst and appetite were greatly increased. He made use of food previously refused. Emaciation, which appeared after the polyuria, was rapid and complete. He lost interest in his surroundings and appeared drowsy, but at no time was there coma. Morphia sulphatis was given in two-grain doses, each 24 hours, without effect, and finally at about the fourth or fifth month from beginning of polyuria, he was chloroformed. Autopsy showed great emaciation, thyroids large walnut size, cystic but not cancerous. Thoracic organs normal. Pancreas large, hard and nodular, and on microscopical examination seemed to be permeated by medullary cancer, most cells being of the columnar type; metastasis in the lymph glands, liver and stomach. In other respects the viscera were normal, except the liver, which was fatty."

In these reports, incompletely as they are reported, owing to the place where the cases were presented and I having at the time no idea of presenting them, there are, nevertheless, several interesting points to be noticed.

1st. In all cases grape sugar was present.

2d. The animals were all aged and fat.

3d. After polyuria appeared emaciation was quite rapid.

4th. Those cases allowed to approach a natural termination, instead of showing a diabetic coma, as of the human, rather showed depressed psyche, followed by what appeared to be intense excitement of the higher centres.

5th. The four patients which alone were examined, while showing fatty degeneration in various organs, likewise showed serious structural change in the pancreas. Whereas nearly all post-mortem examinations conducted upon animals show the changes in this gland, like those of the superficial salivary glands, outside of those incidental to digestion, to be extremely rare, very rarely indeed do the tissues of the pancreas show fatty degeneration.

That the so-called diabetes mellitus is always the result of a single, always demonstrable lesion in any one part of the body, I doubt; rather am I inclined to think that the next decade will see this name submerged from the text-books as the name of any disease, and in its place will stand a word or words which will at least have some reference to the correct pathology. Certainly as it stands to-day a name could scarce bear less meaning as to its pathology. In this day of advancement we have no more reason to be satisfied with this sort of nomenclature in our text-books for the distribution of knowledge than we would have to call acute laryngitis "hoarseness" or tetanus "lockjaw." We must look up these cases. We must study them carefully as individuals and as a profession seeking truth, and undoubtedly with this will come a grouping of what now is blindly called diabetes mellitus into several distinct diseases, with distinctly different causes, with this excretion of grape sugar in the urine only as a symptom common to all.

I have said that the pathology of these conditions is not entirely unknown, and would remind you of and would gladly, did time permit, go with you over the footsteps, as it were, of some of our modern miners of the mysteries of physiology and pathology, as they have worked their ways along the dark paths and recesses of this strange disease or diseases.

I would refer to the wonderful and fruitful experiments of Minkowski, of Strassburg, Von Mering of Hédon, and others only a little less celebrated. Probably in no other direction in experimented pathology has more thorough and brilliant work been done than by Minkowski, and, with the outcome that while he is not at present in position to state the ultra occult change in metabolism, which is evidently accountable for the seeming inability for the tissues to take up and use the sugar normally arising from alimentation and manufactured from direct metabolism of the cells themselves, they point very conclusively when the primary cause for this occult change arises, and in no manner can I make him and his work more explicit than to quote his words: "In dogs a diabetes mellitus of the gravest form followed without exception the total extirpation of the pancreas." The cases so operated upon by this man with this result are among the hundreds, and everything he has written upon the subject has been subjected to the purging fire of European criticism, but he has nobly met his adversaries, and with living proof. In the light of his experience he is led to regard this condition as one of the metabolisms brought about in some at present not known manner of interference in and disbalanced relation of the pancreas as a gland in the complex phenomena of the animal body, and would define it as a functional pancreatic disease, marked by almost or entire inability of the tissues to assimilate the sugar ordinarily provided for their nutrition, marked by glycæmia and secretion of sugar in just that quantity by the kidneys as symptoms, and he advances two theories why this comes to pass. It is not that the pancreatic fluid or juice is an all essential, or that disease of its substance may set up important changes in the nervous plexus in its region as has been maintained by some, but rather would he give us these two theories to help him work out: 1st. Either that the prime vital function of the pancreas is to take to itself and destroy or render innocuous a circulating not nearer known agent of the living blood, the constant action of which is to excite these phenomena of the cells, or 2d. The pancreas has a direct function bearing upon the sugar-using characteristics of the animal cell, which function when not exercised is evidenced by the symptoms we are pleased to group together as diabetes mellitus.

Without entering at length the discussion of these theories, a summing up of all the evidence in sight from the standpoint of these investigations at least would greatly tend to prejudice us in favor of the former; for just as the symptoms of myxodema and fatal cachexia may be averted in the human or animal body by the presence of an extremely small particle of healthy thyroid gland tissue, so may this condition of diabetes mellitus be also completely averted by the presence of a comparatively minute portion of the active pancreas standing in living connection with the body, even though the location may vary very materially from the normal.

Owing to the small number of cases I have been able to collect, and to the fact that they allowed no opportunity to investigate them experimentally, I cannot draw any particularly valuable deductions from them. They, however, serve to show that this disease is an important one to us. We are aware of the value of just such clinical cases, even in the hands of the men who study altogether experimentally, and if you take the trouble to read their works you will scarcely find mention made of these authentic cases. Let us bring them into line, and do some work on them ourselves, even for the sake of veterinary science, and in so doing aid ourselves and our profession in the routine work which pertains to correct scientific diagnosis.

It matters not what the slip-shod graduate may sneeringly say regarding these seeming minor details in our study, we should take every means to inform ourselves of these methods and lose no good chance to apply them, for they are inadmissible to correctness, and the man who knows them and fails to apply them, to the end that he may reach the truth, is not only a laggard, but is positively dangerous to the profession. Figuratively speaking, the presence of sugar, pus, blood or albumen in the urine of our patients hold the same relation to the veterinary diagnostician and his prognosis that they do in human medicine, even more, and the earlier we as members of this profession grasp these advantages just so the earlier will we surmount one of the greatest difficulties we have to contend with, the one which causes the most derision and most harms our patient, viz., unsatisfactory and oftentimes outrageously incorrect diagnosis of internal and hidden diseases of our fellow-creatures.

CANINE DISTEMPER.

By Howard B. Felton, B. S., V. M. D., Philadelphia, Pa.

A Paper read before the Pennsylvania Vet. Med. Association, at Reading, Oct. 6, 1896.

Canine distemper is a disease that can be traced back to a very early period. Virgil writes of it in his "Georgics," and there is no doubt that if the records had been properly kept we would find that neolithic man was acquainted with this disorder that gave his dog the running nose and weeping eyes, and was aware that the proper treatment was a supernasal application of the pitchy products of the conifera. We find it described in the hunting books of the Middle Ages. Hewitt, an English author, was the first to recognize its contagious nature, which was afterwards demonstrated by Karle, Trasbot, Venuta, Krajewski and Laosson.

Distemper is a disease proper of canines, although it has been observed by Laosson in both domestic and wild cats, and, according to Friedberger and Fröhner, in the fox, wolf, hyena, jackal and monkey. To this list we must add man, as Zelinski, Nancki and Karpinski have recently discovered that distemper can be transmitted from the dog to man, causing in the latter tenonitis, or an inflammation of the capsule of Tenon. A full account of this interesting discovery will be found in a translation by Dr. S. J. J. Harger of an article on "The Microbe of Canine Distemper," in the *Veterinary Magazine* for June, 1895, to which article we acknowledge our indebtedness in speaking of the specific origin of the disease.

Distemper has been claimed by some authors to be variola in the dog. By various others it has been spoken of as typhoid fever, typhus fever, scarlatina. While there are points of resemblance to all these diseases, it has been found after a careful study and comparison to be the most closely allied to measles. Both diseases affect young animals; each is ushered in by malaise, anorexia and chills. In each we have catarrh of the nasal and conjunctival mucous membranes, respiratory troubles, cutaneous eruptions and lesions of the nervous system. While the resemblance is remarkably close, however, we find in distemper lesions of the digestive tract which differentiate it from measles and assimilate it to typhoid fever, so that, taken as a whole, it must be regarded as a disease *sui generis*. As to the specific agent in the causation of distemper much has been done in the line of original investigation and research. Semmer in 1875 found in the blood and lungs of a dog, which had died of distemper, a micrococcus, and in the blood, lungs, liver, spleen and kidneys a short, small bacillus. He considered the bacillus to be the specific agent. Laosson continued the researches of Semmer and cultivated the micrococcus and bacillus in bouillon from the dog and with these mixed cultures was successful in reproducing the disease. In 1891 Schantyr arrived at the conclusion that the micrococcus heretofore described was only a pyrogenic micrococcus. From his opinion he distinguished, (1) a disease of young dogs determined by a small bacillus 1 to 2 m. in length, grouped, found in the spleen, blood, the liquid exudates and liquefying gelatine; their cultures upon serum transmitted the disease; (2) an abdominal typhus caused by a bacillus 7 to 2.0 m. long, which did not stain with Gram's method; (3) a typhoid affection due to a bacillus shorter than the preceding, which does not stain with the above method. From 1892 to 1894 Zelinski, Nancki and Karpinski made a series of observations and discovered in the discharges from the nose and eyes of dogs affected with distemper a micrococcus which was capable of producing in man an inflammation of the capsule of Tenon, and in some cases a diffuse bronchitis and pneumonia. This micrococcus is immobile and measures 8 m. It can be grown upon bouillon and upon gelatin at 37° C. It is analogous to the streptococcus pyogenes albus, but it decomposes sugar and peptonized albumen.

Since 1893 Galli Valerio, from the pathological institute of the Veterinary School of Milan, has made a bacteriological study of this disease and claims to be the first to have discovered a bacillus in the lungs and central nervous system, inoculations of the cultures from which have produced all the symptoms of distemper. He deduces the following conclusions; 1. In distemper there is found in the lungs and the central nervous system a bacillus whose dimensions vary from 1.25 to 2.5 m. in length and 31 m. in diameter. 2. This microbe gives characteristic cultures in gelatin at 18 to 20° C. 3. The inoculation of these cultures into the veins, under the skin and into the lungs of aged dogs does not reproduce the symptoms of distemper. 4. The inoculation of a culture obtained from the brain under the skin of a dog five to six months old has reproduced the disease with its characteristic pulmonary and cerebro-spinal symptoms. It would seem from a review of all these experiments that more than one organism is concerned in the production of this disease, with all its train of complex symptoms. Distemper usually appears at an early period in the dog's life; in most cases at the time of dentition. It may appear, however, at any age, the extreme limit which we have observed being twelve years. The younger the dog the more fatal the disease is supposed to be, but an exception must be made in the case of extremely young dogs, as we have observed in the case of suckling puppies that have contracted the disease from the mother, that they almost invariably have it in a mild form and free from complications. The contagion is extremely volatile and may be communicated by direct contact of the animals with each other, by fromities, by an attendant, or by the air. Semmer relates a remarkable case where the disease was conveyed to two puppies from the carcass of an animal which had been left in the cold for fourteen days prior to an examination. The period of incubation is from three to five days, shorter in summer than in winter. In cases free from complications this is followed by a slight fever, dullness and loss of appetite, which lasts for about four days, the temperature rarely rising above 103° F. At the end of this time the eruption comes out, usually upon the soft parts of the skin and in most cases only in the inguinal region. This eruption may pass through the various stages of erythema, vesicle, pustule and ulcer, although it is frequently seen simply as an erythema and sometimes only in the form of a vesicle. The eruption does not penetrate the deeper layers of the skin, as we see in variola in the horse and sheep, but is entirely superficial. When the eruption comes out the fever drops, the appetite returns and the vesicles scale off in about two days. Then comes a secondary eruption, which scales off in two days and disappears. There is then a period of convalescence, which lasts for about six days, so that the whole attack, if uncomplicated, will last about eighteen days. In highly-bred dogs the first fever may be very high and we may have death occurring due to repercussion, the eruption appearing internally as an intense congestion on the respiratory tract or on the intestinal tract, causing fatal gastro-enteritis. Death may also occur from irritation produced by the pustules. One attack usually conveys immunity, although some dogs will contract the disease a second time, and we have observed one case in which a dog had three separate attacks during a period of four months. The complications may be divided approximately into three clases: 1, respiratory; 2, intestinal; 3, cerebro-spinal.

Respiratory troubles are usually ushered in by a coryza, which may disappear in a few days, but in most cases it is followed by congestion of the lungs and broncho-pneumonia, which is indicated by an increase of fever, alternating with chills, respirations greatly accelerated, and in severe cases flapping of the lips during expiration. On auscultation mucous and sibilant râles can be detected. The animal emaciates rapidly and refuses all food. The discharges from the nose and eyes become muco-purulent. When the nasal discharges become mixed with blood it usually indicates the breaking down of a large portion of the lung tissue and points to a fatal result. The eyes may be affected with a conjunctivitis, which may terminate as such or may be followed by a simple keratitis, which may result in ulcerative keratitis.

The intestinal complications may be enumerated as gastritis, gastro-duodenitis, jaundice and enteritis. Gastritis is indicated by the inability of the stomach to retain food and persistent vomiting of a frothy mucous, which soon becomes mixed with bile. In gastro-duodenitis the matter vomited does not contain bile, but consists of a glairy mucous. Gastro-duodenitis usually ends in enteritis and frequently, from extension of inflammation of the bile ducts, in jaundice. Jaundice is almost invariably a fatal complication.

We have observed that in distemper, enteritis very often assumes a subacute form, so far as the manifestation of pain is concerned, although the organs after death may show the signs of intense inflammation. This is no doubt due to the toxic influence of the poison in the blood. There is observed in enteritis, first an obstinate constipation, followed by a serous diarrhœa, rapidly becoming dark in color and mixed with blood. The discharges have a peculiar fetor, which is very characteristic. Dysentery frequently sets in and in a few days the animal becomes greatly emaciated, foul smelling and a pitiable looking object indeed. The discharges are passed frequently in very small quantities, often accompanied by tenesmus, which is liable to cause prolapsus of the rectum. We have found prolapsus of the rectum under these circumstances not to be amenable to treatment.

Under the head of cerebro-spinal complications may be mentioned meningitis, myelitis and chorea. Meningitis usually manifests itself in the form of epileptic fits, in which we have pivoting of the eyes, frothing at the mouth and champing of the jaws. Animal may throw itself upon its back and utter shrill cries or moans. Meningitis may be exhibited in that rarer form in which the animal walks around continuously in a circle in one direction either to the right or the left and appears to be in a sort of stupor, showing indications of brain pressure. A series of fits in rapid succession may be considered as indicating a fatal result, while one or two, especially if occurring early in the course of the disease, do not have a grave signification. We may look for fits in finely-bred dogs and those of a highly nervous organization.

Myelitis is indicated by a gradual progressing paraplegia which in most cases is accompanied by anæsthesia of the parts affected. The paralysis usually precedes the fatal result, or if the animal recovers there will be in most cases an imperfect use of the hind limbs.

Chorea is a clonic spasm of the voluntary muscles, and may be general or local. It may come on at the end of the period of eruption or may appear as a sequella some weeks after recovery. The muscular twitching is more marked when the animal is in a state of repose. Associated with it we very often have a high degree of nervous irritability and the animal cries persistently as if in great pain, sometimes even in his sleep. In other cases the animal remains in good spirits and has an excellent appetite. The general form has been described as a paralysis agitans, and is not amenable to treatment. The constant motion wears the animal out; the muscles atrophy; the animal becomes a miserable skeleton and succumbs to exhaustion. Some local forms where one set of muscles only or one side of the body is affected, yield to treatment. In others, while the general health may be restored, the muscular twitching persists during life. In rare cases we will observe nervous phenomena simulating locomotor ataxia in which there is a loss of coördination in the movement of the limbs, a staggering precipitate gait, the legs starting hither and thither in a very peculiar manner and the feet coming down with a stamp at each step. This condition is due to a diseased area affecting the posterior columns of the spinal cord and the posterior nerve roots. As in the human subject the use of the eyesight is necessary to prevent the animal from falling. We have not noticed, however, strabismus, ptosis or neuralgic pains which are characteristic of this disease in human beings.

A rare complication of distemper is lymph adenitis which we have observed affecting the sub-maxillary lymphatic glands, the glands on the side of the face, and in two cases the thyroid glands, forming abscesses with considerable sloughing of tissue and being very slow to heal. A rare sequella which we have observed and have not seen mentioned before is purpura hemorrhagica, a well marked case occurring in a spaniel puppy four months old, one month after recovery from a mild attack of distemper. The alterations are essentially those of a fever, the muscles being of a pale yellow color with little red ecchymotic spots throughout their substance and the fat turned into little masses of gelatin. The blood is fluid and watery. In enteritis we find ulceration and infiltration of the intestines, especially of Peyer's patches and the solitary glands. In broncho-pneumonia we have congestion of the lungs, bronchi filled with frothy mucous, areas of V-shaped lobular pneumonia and possibly presence of abscesses in lung substance. In chorea and myelitis we have infiltration of round lymphoid cells into the spinal cord, medulla oblongata and cerebellum and granular degeneration of the nerve cells.

The treatment is essentially symptomatic. Many cases require no treatment but good hygienic surroundings and careful feeding. There is no disease where careful nursing is more urgently required. The eyes need frequent cleansing to prevent ulceration. The bowels need to be carefully looked after to prevent enteritis. The animal must be kept from drafts to prevent pneumonia, and if a nervous subject must be treated very gently to avoid fits. While these complications may occur despite the best of care, yet the possibility of preventing them should cause us not to relax our vigilance.

For conjunctivitis we bathe the eyes frequently with hot water and apply a solution of boric acid, ten grains to the ounce. For a simple keratitis we use thrice daily a collyrium containing ¼ grain atropia and two grains sulphate of zinc to the ounce. We have never found it necessary to use a stronger solution than this. When ulceration of the cornea sets in we use in addition to the collyrium above mentioned, dry oxide of zinc, dusted upon the ulcers, being sure to have the powder free from grit and ground very fine. Our method is first to use the collyrium and then the powder. In some cases we have had good results from the use of honey in addition to the other remedies, applying two drops in the eye morning and evening. When the cornea has ruptured and the aqueous humor run out, granulations frequently spring out from the seat of the ulcer which have been called staphyloma. It is often necessary to remove these with the knife as they are exquisitely tender and cause the animal great pain and discomfort. Shoemaker's wax upon the nose is not to be despised, but we have found better results from fumigations of tar which seem to exercise a decidedly beneficial action upon the disease, especially upon the bronchial complications. Care must be taken, however, not to make the fumes too dense, as in this case they prove too irritating.

We find quinine to be indispensable in the treatment of distemper. In pneumonia we combine it with muriate of ammonia, giving from one to three grains of each in capsules, according to the size of the dog, three to four times daily. We also employ it in the intestinal complications combined with subnitrate of bismuth. We have had good results in pneumonia, especially in cold weather, from the use of a jacket stuffed with cotton-batting sewed around the chest and neck, placed on early in the attack, and left on until some time after convalescence. In bad cases of pneumonia we have used $\frac{1}{120}$ to $\frac{1}{80}$ of a grain of strychnia as a respiratory stimulant with good results. We also give milk punches frequently in small amounts, alternating with beef tea when the animal grows tired of them. In gastritis and n mild forms of diarrhœa we have found salol and subnitrate of bismuth to be a good combination. In cases of persistent vomition we give half-drop doses of carbolic acid and iodine every hour and small doses of egg albumen given frequently alternated with milk and lime water. In bad cases of diarrhœa, when the discharges are tinged with blood, and in dysentery, we employ a combination of opium, one grain, sulpho-carbolate of zinc, one grain, and bismuth subnitrate, five grains. Also enema of starch water. We have found the best diet in dysentery to be raw meat or meat slightly broiled in butter, cut up finely and given in small quantities. This is completely digested in the stomach before it reaches the inflamed bowel. We do not use purgatives, but employ olive oil for its laxative, emollient and nutritive qualities.

For epileptic fits we employ the hot bath and give mixed doses of potassium bromide and chloral, five grains of each, repeating every three hours and increasing the dose if necessary. Where it is necessary to use this remedy for some time we substitute bromide of sodium for the potassium salt, as it can be given in larger doses and is better tolerated by the stomach. In those cases of locomotor ataxia and those in which the animal travels around in a circle we have never had any good results from treatment. It would seem in the latter case that trephining is indicated if the proper spot could be found. In chorea we have tried every remedy proposed thus far and must say that the only good results we have ever obtained have been by the employment of arsenic. We have not obtained the results which M. Monfallet gets by the use of quinine. It may be, however, that the cases which he cured did not have chorea as a result of distemper.

It is our opinion and that of a number of physicians with whom we have conversed that chorea following distemper in the dog is of a much more intractable kind than that seen in children. We believe it to result largely from the anæmic condition of the blood, and the granular degeneration of the nerve cells in this disease indicates that it is a very serious lesion indeed. In arsenic we have the valuable properties of a blood tonic and a special stimulant to the nervous system. We begin with two drops of Fowler's solution thrice daily, increasing one drop every third day and pushing it up almost to the verge of poisoning, stopping altogether when the animal begins to vomit, and after two days commencing again with the smallest dose.

In some dogs we find an idiosyncrasy against the use of Fowler's solution due to the lavender in its composition, and in these cases we employ the liquor acidum arseniosum, the dose being the same. With this treatment we have cured a fair proportion of cases, but, alas, far too few. The great trouble in the treatment of chorea is in the length of time it takes to effect a cure, the owner usually becoming disheartened at the slow rate of improvement and ordering the animal destroyed. Many cases will take from three to six months to effect a cure. In others the twitchings may persist for a year and then disappear. We are anxiously looking for the discovery of an antitoxin which shall be both preventive and curative, and be a much more powerful weapon than any we are able to employ at present in combating this disease.

NEW YORK STATE VETERINARY COLLEGE.

INAUGURATION ADDRESS BY PROFESSOR JAMES LAW, SEPT. 24, 1896.

It seems desirable to say a few words to you collectively in view of the inauguration of a new enterprise in America—a State Veterinary College. As an English-speaking people we have been especially influenced by English example in shaping many of our institutions, and in none more so than in those to which veterinary education has been committed. It has been a crowning glory of the Anglo-Saxon race that they have suspected and frowned upon a too paternal government. In Europe and America, in South Africa, Australia and New Zealand, a prominent aim has been to restrict the functions of government to the protection of the citizen in his personal rights of property and conscience, in his lawful business enterprises, and his pursuit of pleasure. Education, it is true, came in for a constantly increasing share of national control and support, but this was for long mainly along classic lines, and was a legacy which came down to us from the early monastic and ecclesiastical schools. For purely secular education, money was slowly and grudgingly allowed, with a wholesome dread of the evils to be apprehended from class legislation. That instinct of evenhanded justice which demanded for the citizen a trial by a jury of his peers, naturally recoiled from any proposition which looked like an appropriation of public money for the creation or benefit of any special class or guild. It is only in recent years that the manifest value to the nation, in its competition with other nations, of the highest knowledge and skill in science and arts, has led to the founding and support of technical and professional schools of all kinds, to keep the country in the forefront of the race of civilization and progress.

As the Anglo-Saxon peoples have gradually awakened to the need of government provision for technical education, those branches which seemed to be ot the greatest material value were naturally the first and most liberally dealt with, while those in which the prizes were smaller, or the triumphs less striking, and competition less close, were still left to shift for themselves.

In Great Britain there has never been a State Veterinary College, and the four existing schools have been all founded by private enterprise and conducted independently of state grants.

In America, as in England, the veterinary schools have been private ventures, and consequently largely dominated by the financial results. The founders of such schools were met at the threshold by the imperative questions:

Will the venture pay?

Can we secure fees enough to sustain it?

Will the name of the college bring us greater and more remunerative practice?

Will the prospective fees, fame and practice warrant the investment?

The answer is necessarily dominated by the question of money and the temptation is great to subordinate the educational considerations. The pressure is heavy:

1st. To shorten the curriculum.
2d. To admit ill-prepared candidates.
3d. To graduate large numbers irrespective of fitness.
4th. To further abridge the already short course (and as a final degradation),
5th. To sell diplomas.

To this last, lowest depth of sordidness *more than one* veterinary college in America has sunk. But short of this, even the surviving and honorable colleges have been one and all prevented from achieving the status which the nature of the subject demanded. The preliminary education and the trained mind which are necessary to the successful pursuit of the science, have not been required for matriculation, and the course has been abridged to such an extent that even a trained mind cannot successfully cover the required ground in the time allowed him.

Meanwhile the field of veterinary science has been rapidly enlarging—deepening, widening and becoming more thoroughly cultivated, so that the insufficiency of the untrained student and his short curriculum have become more and more marked year by year.

The contrast with the schools of veterinary medicine on the continent of Europe will emphasize this statement. In entering a continental veterinary school the student must show that he has graduated from a *real skule*, gymnasium or college, and he must pursue a veterinary course of three years and a half to five years of nine months each, ere he can hope to secure a degree. Add to this that the great advances in medicine have been such that the great majority of the students have to study one additional year ere they can secure the coveted diploma, and we can appreciate the hopeless inadequacy of a course of two or even three sessions of five or six months each, which has not been preceded by a mental training in high school or college.

These continental veterinary colleges would have been no more thorough than the English or American had they been dependent on private enterprise. But there is no veterinary college on the continent of Europe to-day that is not a ward of the government. Each one has been founded and is sustained by the commonwealth just as are the army, the navy, the experiment farms, etc. This paternalism is founded on a long experience of their value, of which I may be permitted to give a single example.

The disease rinderpest, which confines its ravages to ruminants, and, as its name indicates, almost exclusively to cattle, formerly spread over most of Europe at frequent intervals, killing 20 to 95% of the bovine race at a single invasion. Paulet tells us that in three years (1711-14) it cut off 1,500,000 head of cattle, and Faust says that in the whole of Europe in four general invasions dating from 1711, it destroyed no less than 200,000,000 head. At $20 per head this reaches the astounding sum of $4,000,000,000. So late as 1844, according to Reynal, it destroyed 1,000,000 in southern Russia alone.

Thanks to the veterinary profession of Europe, this disease can never again attain such boundless sway, and though still extended at intervals in the course of belligerent armies, or in the channels of trade, it is always met with intelligent measures of control and speedily suppressed.

This is but one of the deadly plagues of the Old World, the ruinous extensions of which led, in 1762, to the establishing of the first European veterinary school, at Lyons, France, under the presidency of Bourgelat. This was followed, a year later, by a second school, at Charenton, near Paris, and still later by a third at Toulouse. These were succeeded by a score of others in the different countries of the continent, all at the national charge and under government control. They are justly looked upon as economic investments, not only for the restriction and extinction of the plagues formerly so rife and fatal, but also for the conserving of the lives and efficiency of the horses of the cavalry and artillery, for the protection and fostering of the various animal industries, and indirectly, though no less certainly, for the permanent preservation of the fertility of the soil.

The results have abundantly vindicated the wisdom of the investment. The protected herds have furnished a cheap and abundant food for the growing populations; the increasing demand for cattle food and the multiplying of the natural sources of rich manure, have combined to enrich the fields and improve the crops; the improved agriculture and abundance of food products have fostered every branch of manufacture and trade, and contributed to a substantial prosperity.

The contrast in countries where veterinary science has been ignored is quite instructive. In South Africa, apart from the mining interests, grazing has long been the main source of wealth. Into this country lung plague was imported in infected Dutch cattle in 1854 and extending on the unfenced grazing tracts, under a semi-tropical climate, proved so disastrous that, according to Lindley, whole herds of one or two hundred head would perish without a single exception. At that time the Matabele chief, occupying land protected on two sides by inaccessible cliffs, successfully defended his passes against the diseased cattle and saved the wealth of his people.

Now recently a cargo from infected Hindostan has implanted the still more redoubtable rinderpest in South Africa, and in the disturbed condition of the country this has penetrated even into Matabeleland, and bids fair to destroy the cattle industry of South Africa.

Again the lung plague, imported into Australia in 1859, in a diseased English cow, was allowed to spread over the whole island continent, and permanently blighted the cattle industry of one of the finest pasture lands on earth.

In England this same lung plague in the forty years succeeding 1842 cost the nation $500,000,000.

In the United States the same plague prevailed in our eastern seaboard States for over forty years, causing losses that have never been estimated, and incidentally leading to an embargo on American cattle in England which entailed a loss of $10 a head on an average to the exporter. This alone amounted to $2,000,000 per annum. It was only when the plague reached the centre of our cattle traffic (Chicago) and bade fair to invade the whole country—including the unfenced territories—and to repeat in America the experience of South Africa and Australia, that the national and State Governments were roused from their lethargy, and we were empowered to take efficient measures for its extinction. Happily now it has no place on this Continent, and with reasonable precautions can never make a new invasion.

The same line of thought and similar historic facts, could be followed and adduced as to the other animal plagues, including the affections caused by the larger animal parasites, as to enzootic diseases caused by faulty conditions of the environment, as to constitutional diseases due to errors in breeding, diet and regimen, and as to local diseases many of which are due to improper treatment.

In America, as in Europe, we can successfully maintain that the benefits already drawn from the veterinary profession have abundantly vindicated its claim to State support. But the prospective value of the work of veterinary investigation and education far exceeds all that they have accomplished for the nation in the past. Among our horses glanders yearly claims a large and valuable sacrfice to its devouring poison. Among cattle, anthrax, tuberculosis and Southern cattle fever cause widespread, though needless destruction. Our sheep flocks are decimated everywhere by remorseless parasites, internal and external. Among swine the preventible infectious fevers cost the nation on a low estimate $20,000,000 per annum. Among fowls the prevalent contagious affections are no less disastrous.

In the matter of numbers the wealth at stake in the live stock of America is as great as that of European nations, and to the reasoning mind is no less exacting of measures for its protection. In four of the most important countries of western Europe the aggregate of the farm mammals is considerably less than that of the United States. Yet these four countries of western Europe (France, Belgium, Holland and Germany) have eleven veterinary schools, maintained and fostered at state expense. Surely our own Empire State with its 9,500,000 of farm mammals, with its large emporia at Buffalo, Albany and New York for the reception and diffusion of live stock from other States and its record of a recent riddance from a cattle plague which for over forty years had hung like a pall on the cattle industry of the State, and exacted a tax of $2,000,000 or more per annum from home herds and exports, is fully justified in establishing a State Veterinary College.

But if the mere economic advantage would demand such a step, how much more would the protection of human health and life! How much of the physical disease and death of man is due to direct transmission from corresponding diseases in our domestic animals, is only now beginning to be realized.

Among parasites some of the most deadly of man's tormentors come directly from our live stock. Trichina, echinococcus, the beef and pork tapeworms, strongylus gigas, and actinomycosis may be mentioned in this connection.

Among microbian diseases the list is no less redoubtable. Glanders, farcy, rabies, tetanus, milk sickness, tuberculosis, anthrax, malignant œdema, septicæmia, erysipelas, gangrene and infectious ostitis may be adduced as examples.

The more intimately we acquaint ourselves with the subject of communicable or contagious disease the more deeply are we impressed with the fact that there is the closest relationship and interdependence between these affections as they appear in man and animals. Indeed, in many cases, as in the echinococcus, the beef and pork tapeworms, and even the trichina, the successive appearance of man and animal as the host of the parasite, at the different stages of its development, is a condition of its propagation. So far as we know it is impossible for the echinococcus or the beef tænia to live in the same host, or in a host of the same genus in both its larva and mature condition. Man harbors the larva and the dog the tænia, or the calf entertains the larva and his master the tænia.

In the case of contagious affections due to microbes, the same alternation from man to beast and from beast to man, is not so essential to their maintenance, and yet the intimacy of the relation between the domesticated animal and the civilized man is so close that many such diseases are largely propagated in this way. In this sense, glanders and anthrax stand out as largely industrial diseases. The first appears in persons having close relations to horses and horse products—grooms, coachmen, stablemen, cowboys, soldiers, farmers, horse-dealers, knackers, veterinarians, surgeons, tanners, gardners,—whose daily avocations lay them especially open to direct infection. The second is a disease of farmers, cattlemen, shepherds, butchers, tanners, hair and wool workers.

But neither disease is by any means restricted to these classes. These suffer more numerously, but others suffer in a limited degree, through direct channels of contagion. And the danger of such irregular transmission is in exact ratio with the number of diseased animals that are allowed to survive in a district. A single glandered animal is a source of no great danger. He may be even used on public highways, but his contact with or proximity to man is necessarily somewhat restricted and the human risk is correspondingly small. But let him have free scope to infect others, and these to infect others in turn, until one can hardly enter a street without meeting an infected animal and having him snort his deadly nasal discharge on one's person and into one's nose, eyes and lips, and the danger at once becomes imminent. Let glanders be neglected in a street car stable until its victims are counted by the score, or on a horse-ranch until the diseased mount up into the hundreds, and the dangers first to the caretakers, and second to the general public, is greatly enhanced, and human victims of this most loathsome and deadly disease become comparatively common. Let a grocer, baker, milkman, or other vendor of human food, keep a glandered horse and use it in his delivery wagon, and the hands of the driver, alternately coming in contact with the virulent discharges and the articles of food, threaten to become a very direct cause of infection to his unsuspecting customers.

A single anthrax animal would also be primarily a source of apparently little danger, but when that diseased subject is allowed to contaminate other animals and even susceptible soil, which can retain and propagate the bacillus, the danger to both man and beast is enormously increased. Brought up from the graves, by the rising of the soil water in wet seasons, or by the intervention of the earthworm or the burrowing rodent, then dried up and blown by the winds upon the vegetation; drawn up from wells in the drinking water; borne along by strêams and rivers to new localities; carried on the feet and even in the stomachs of vermin, birds and insects, and implanted in the skin by their mandibles and biting apparatus, the bacillus finds many channels of conveyance and numerous modes of infection. Delivered from the butcher's stall into our kitchens, the meat of an anthrax animal is liable to contaminate other food, through knives, forks, plates and other articles, and even to cause direct infection through the resistance of the spore to the heat of cooking.

Of late years the general public has been more exercised over tuberculosis than any other complaint which is common to man and beast. There is doubtless good reasons for this. This *white plague of the north*, by far the most deadly affection of man, killing one-eighth of civilized humanity, and attacking one-fourth or even one-third at some period of their lives, is also the most prevalent chronic disease of our dairy herds, and its extension in the human race bears a remarkable ratio to the utilization of the bovine races for dairy products and beef. Piscivorous tribes like the western islanders of Scotland are usually remarkably free from tuberculosis, as are also the native Chinese, who are vegetarians. The ruling Tartar race in China, on the other hand, are beef eaters and largely tuberculous. In Egypt and Algiers in the comparative absence of bovine herds, the great influx of consumptives has not materially deteriorated the health of the native population, while in Italy, Australia, Hawaii and Madeira, where the population freely consume the products of the bovine race, the rush of phthisical health-seekers has led to a great extension of tuberculosis among the natives. Among tribes of our own Indians, who feed upon the raw flesh of the ox, too often diseased, 50 per cent. of the total mortality is from tuberculosis.

Concurrent testimony, obtained on so large a scale, and from such widely different sources, is not to be lightly set aside. Tuberculosis is mostly a chronic disease, frequently lasting through a long lifetime. A certain number of cases recover, many more remain dormant, ready to burst into renewed activity whenever the health is otherwise undermined. It is essentially a "pestilence that walketh in darkness," and often under an outward guise of health, the subject of the disease carries around the germs of certain death to his unsuspecting and more susceptible fellow. The very latency of the disease in certain systems, and the absence of all prominent outward manifestation of illness, is a potent factor in the propagation of the infection. A disease that is quickly fatal, like smallpox, plague, yellow fever, or cholera in man, or anthrax, rinderpest, or Texas fever in cattle is easily dealt with, since wherever the germ exists in connection with susceptible subjects, its presence will be speedily manifested, and it can easily be circumscribed and crushed out. These make their attack in broad daylight as with great sound of trumpet and roll of drum, and we are warned to fortify every post and strengthen every defense. But the stealthy tubercle bacillus, which glides up in the darkness and silence, and, as it were, saps our walls of defense without visible manifestation or audible sound, and suddenly appears, when least expected, in the interior of our most trusted keep, is by far the most dangerous enemy.

To neglect our defense because of this subtilty is to abandon our cause and play the poltroon. This is not the part of modern science ; this is not the course of the medicine of to-day and of the future.

To the biologist who has studied the infinitesimal forms of parasitic life, the subtilty of the germ is but a challenge to meet its inroads by a more effective strategy, to meet its hidden mines by equally able countermines, and to turn an otherwise assured defeat into an accomplished victory. But in doing this he can never safely abandon the first principles of warfare. He can never neglect a favorable opportunity to reduce the numbers of the enemy, nor to prevent him from securing reinforcements. Yet this is just the course that is strongly urged in regard to tuberculosis.

Because some recover, and because other cases remain long latent, we are urged to let such cases go on in their work of indefinitely multiplying the disease germ, and to attack them only when they become acute and deadly. Acute cases don't live long to propagate the disease. Whence then comes the constant succession of cases? Mainly from the latent and recovering ones. Our own University herd is a standing example of a sound prevention of this infection. Formerly affected with tuberculosis, it has now for a number of years been entirely free from the affection, in spite of many risks, from visitors and otherwise, and in spite even of the presence in the barn for several months of a latent and unsuspected case, which had been brought from another herd. Had we left that dormant case in the herd after its discovery, it would in all probability have sooner or later developed into active disease, and become the source of a new general extension of tuberculosis in the herd. It is impossible in a short lecture to lay down infallible and iron rules for dealing with this, or any similar disease, under all possible circumstances. Special conditions may warrant special measures. In the case of valuable animals where economic considerations would warrant the supervision, separate herds of dormant cases may be allowed for breeding purposes, if they can be kept carefully apart from all other stock, their milk products denied to man or animals, and all acute cases weeded out from the herd as soon as they can be detected. Above all, if such breeding herd of dormant cases can be subjected to a continuous out-of door life on the open prairie, where the chances for recovery are highest, and the risks of contagion lowest, they may be made profitable by fattening their healthy progeny for beef, or still more so, by perpetuation of a valuable strain of blood. Under such professional supervision, and frequent testing, the actually recovered animals could in due time be removed from their still questionable companions and restored to a guaranteed herd. But the one who would argue from this that the actual, though somewhat latent and dormant cases should be left in the herd that has been tested, and proved to be above suspicion, is but pleading for a field for the propagation of the contagion. The acute cases that would develop at intervals would entail new victims, no longer among the latent cases and suspected animals only, but among the tested and sound as well.'

Under average conditions, with low priced cattle and a state indemnity, the slaughter of all the tuberculous would be the course of economical and successful sanitary work, and when special conditions rendered another and less radical resort permissible, it should only be adopted when, hedged about by such precautions as would obviate danger to man and beast. We know enough about the dreaded tuberculosis, to say that we can deal with it successfully under the most varied conditions, but our past achievement does not imply that we have as yet reached the limit of possible success in this disease; and a similar success for a whole state or nation would not warrant us in saying that no better measures can be taken. Such a conclusion would be utterly unscientific and unduly conservative. It is the best at present known to us.

But in these days, when knowledge advances by leaps and bounds, no one can say what to-morrow may have in store for us. Some as yet unknown Edison or Tesla may be even now preparing a surprise in the revelation and utilization of natural forces, of which we little dream, and which may cast into the shade our steam engines, our electric telegraphs, telephones, phonographs and skiagraphs. So in the field of biology and modern medicine, the largest hopes and the brightest ideals are likely to prove the most scientific. The vivid imagination and the scientific foresight must unite to help in our future progress. Not in the case of tuberculosis alone, but in connection with the entire field of medicine, a whole phalanx of possibilities, big with promise for the future of humanity, comfort us. As biologists we see genera, species and even varieties of animals that are largely insusceptible to this and that deadly disease. It is for us to grasp the cause of this immunity, and if possible to render it available over a wider area.

As bacteriologists we recognize incompatibilities and antagonisms between the living cells of the animal body and their products on the one hand, and the pathogenic microbe and its products on the other. How far can we avail of these to strike a balance favorable for and protective to the animal. We are as yet on the mere confines of this great science of bacteriology. In the vast microscopic world, full of attractions and repulsions, of living cells and microbes, of neutralizations and physiological antagonisms, of leucomaines, ptomains, toxins, and enzymes, of sozins and phylaxins, there are many and bright promises for the future of preventive and therapeutic medicine. But it is only the trained mind, rich with the knowledge already attained in this science, that can hope to achieve the triumphs of the future. Knowledge, skill, imagination, sound judgment, and indefatigable industry must combine in the man who would hope for success in this field. It is no place for the dull or the laggard. Without undue arrogance it may be asserted that to us has been allotted a large measure of responsibility in relation to this work. By the generosity of the Empire State we are enabled to enter on the field. We have been furnished with the nucleus of a scientific institution from which large and important results may fairly be expected. We are honored as being, in a sense, *the pioneers in a comparatively new field*, we have the place of advanced guard in the inevitable warfare. Though small in numbers our chosen battle-field is one in which numbers count for less than quality, and in respect to quality we have to prove ourselves. Let us take as our primary thought the Socratic aphorism, "knowledge is virtue, ignorance is crime." In this case this is preëminently—I may say painfully—true. As the beneficiaries of the State we shall prove unthankful and unworthy if we fail to make the best use possible of its bounty. As trusted representatives of science, it is expected of us that we fortify ourselves with the lore of the past, and strike out with clear vision, steady foot, and strong hand for future achievement.

To rest satisfied with any knowledge short of the best of to-day is to neglect our opportunity and prove untrue to our trust. The lore of the past can never be safely set aside, nor entirely ignored, yet this has led up to so much that is more recent, clearer, more definite, and full of so much greater potencies, that with Socrates we may say it is criminal to neglect even its smallest lessons. The accumulated knowledge of the ages is great and indispensable, but is small indeed unless we build upon it the riper fruits of its own modern development. This is true for teacher and student alike, for are we not all students in one common school. Some of us may have advanced to a higher grade, while some are but entering the lowest class, but success will crown each only as he devotes his best energies to his work in the spirit of truth and with the ardor of the enthusiast. In this as in all else we must approve ourselves as men. The veterinary profession has long suffered from the low appreciation in which it has been held. Every one who has conceived an attachment to animals has thought himself competent to deal with their diseases. Our State is crowded with men who without further preparation or fitness have been legally established as veterinarians by a simple registration of their names as such. To the future graduate it is given to redeem the profession from this low public estimate. He must everywhere approve himself first as a man of character, a good man and a good citizen. Next, he must approve himself as a man of science. His judgment and his word must be authoritative on all matters that involve his profession and the great interests connected with animal industry. He must be an educator in the highest sense. Wherever his lot may be cast, with whatever class of domestic animals he may be called upon to deal, he must charge himself with the task of bringing to the work the accumulated knowledge of the centuries and especially of the wonderful century which is drawing to its close.

Some of you may be called upon to engage in the extinction of animal plagues. In this, spotless integrity must be joined to the highest knowledge and skill, and conjoined to a deep insight into human nature and an inflexible purpose of applying even-handed justice, if you would escape the danger of being overwhelmed in the storm of detraction and misrepresentation that will inevitably assail you. The honorable prize to be won is a great one, but it requires a good soldier and a sterling man to bear the brunt. When the complete triumph comes, you will find that your whilom detractors, who have opposed you in perfect good faith, will come forward to acknowledge their error and endorse your achievement.

Some will be called to inspect markets and food products, and here with the weighty responsibility of a city's health on your shoulders, you will bless the day that brought you through the rigorous studies of anatomy, physiology, histology, pathology, toxicology, and enabled you with scientific certainty to endorse the wholesome and condemn the diseased and unwholesome.

Some I trust will be called to fill chairs of comparative pathology and comparative medicine now for the first time being established in the most forward medical schools, and which must soon be provided in all such schools that are worthy of the name. None can fill such a place so well as the man who has profoundly studied the special diseases of animals, and indeed none others are fitted to do justice to such a chair. Ever since Hippocrates. the most advanced physicians have recognized and employed the lower animals as a means of advancing medical knowledge. Our knowledge of physiology consists largely in deduction from experiments made on the lower animals ; our acquaintance with the physiological action of drugs and poisons, very largely consists in accurate observations made on the lower animals ; pathology, surgery and medicine owe much—very much—to the same source ; and bacteriology is essentially based on experimentation on the beast—comparative medicine, therefore, can be best pursued by the veterinarian, who, otherwise equally well furnished with the medical candidate, adds to his accomplishments, a thorough practical knowledge of all animal diseases. This will quicken his insight into pathogenic causes, and the significance of morbid phenomena will protect him against hasty, erroneous conclusions, and will make his work at once more productive and more reliable.

Others will be called to undertake investigations in our agricultural experiment stations, where the same wide and accurate knowledge, the same keen insight and skill, and the same scientific methods, can alone bring out valuable results.

For all such future fields of usefulness, you must now make ample and thorough preparation. Patient labor, earnest and systematic effort, daily accomplishing of the day's problems in a thorough manner will make the work easy, and assure success.

In entering this institution you begin in a very special sense your work of life. Outside of the professional school the work of preparation has been essentially general and introductory. In the professional college you start upon what you have especially chosen as your life's work. We who are somewhat older in the field are appointed to advise and guide you in the preliminary stages. It is our purpose and hope to do our whole duty by you, in the right spirit. We bespeak your earnest effort to do your whole duty by the subject in hand, so that the foundations, at the laying of which we mutually labor, may grow up into a grand, noble and worthy development—an honor to our alma mater and to our benefactor, the State of New York.

REPORTS OF CASES.

LIME INHALATIONS IN THE TREATMENT OF PSEUDO-MEMBRANOUS CROUP.

By Drs. Pierce and Archibald, Oakland, Cal.

On Sept. 4th, 1896, we were called to see a thoroughbred two-year-old colt that was suffering and had suffered the previous night from spasmodic colic. The colt was out in a small paddock all night. The owner informed us that the colt had broken out in sweats at different times during the night, which was cool and foggy. The usual remedies for such cases were prescribed, with the result that in a few hours the colt was relieved. At this time the owner consulted us regarding an enlargement on the colt's knee, the result of falling on a slippery street. We advised him to send the colt to our hospital, which was done on the following day.

Between Sept. 5th and 9th, we noticed that the colt coughed occasionally, but we paid very little attention to it, believing he had caught a slight cold on the night of Sept. 3d.

On the morning of the 9th, the colt refused to eat, and upon examination we found the following conditions: Visible mucous membranes injected, temperature 106.2° Fah., throat very painful on manipulation. Diagnosed laryngitis. Prescribed acetanilid, quinine and spts. vini recti., potassii chl. in drinking water and ammoniacal liniment to the throat.

On Sept. 10th, little or no change was noticed with the exception that the respirations became suspicious and rattling. The vibration or bruit in the throat was very pronounced, temperature varied from 105.0 to 106.3°. Ammoniacal liniment was again applied to the throat, and digitalis and belladonna were prescribed to be given alternately with the acetanilid and quinine; this was done to correct the heart's action, which was becoming affected by the continued use of the acetanilid.

On the night of the 10th the symptoms became greatly aggravated, the dyspnœa became alarming, so much so that a tracheotomy tube was prepared for insertion at any moment, saliva dribbled from the mouth continuously, the throat was so painful that pressure of the hand produced a dyspnœic attack, respiration could be heard a block away. Inhalations of benzoin were administered during the night at regular intervals.

On Sept. 11th, there was no change for the better, temperature remained elevated, respiration about the same, eyes prominent, visible mucous membranes dark red, colt would stand with front legs apart and head extended on the shoulders. Diagnosed pseudo-membranous croup with œdema of the subjacent connective tissue. Owner objected to the cperation of tracheotomy only as a last resort. The throat was washed and Churchill's tincture of iodine was applied. The use of acetanilid, quinine and digitalis was discontinued and the treatment was confined to diffusible stimulants, pot. chl. in drinking water and inhalations.

Knowing that the medical fraternity have had wonderful results from the use of lime inhalations in croupous troubles, it was decided to try them on this case. We placed the colt in a box stall, so arranged that it could be made practically air-tight, and in this stall we placed a soak tub, in which we slacked about a bucket full of common lime four or five times daily, having a man hold the colt's head over the lime while it was slacking. From this on the colt began to improve slightly. After two or three inhalations he began to discharge a little from the nostrils. This treatment was continued for six days, when respiration had improved to such an extent that the colt could breathe without much difficulty. About this time all medicinal treatment was discontinued with the exception of sodii hyposulph. in drinking water. A tonic was prescribed, but, owing to the irritable condition of the stomach, it was discontinued. Temperature still varied from 104 to 105.2°. The stertorous breathing did not entirely disappear until Sept. 20th, but even at this time a prognosis could not be arrived at, as the colt was so weak that it was impossible for him to walk a hundred yards. Two abscesses formed in the sub-maxillary region, which were lanced on Sept. 25th. All this time the colt was discharging from the nostrils an enormous quantity of pus and membranous cylinders, which were peculiar in the fact that they possessed little or no offensive odor, as is usually present in these cases. The absence of any offensive odor in this case we believe was due to the aseptic and deodorant properties of the lime inhalations. Convalescence was remarkably slow, so slow that it was not until Oct. 10th that the colt was pronounced out of danger and sent home.

Our conclusions are, first, that under ordinary treatment the colt would have succumbed to the disease, and, second, that lime inhalations are in our estimation clearly indicated in laryngeal cases, more especially those of a croupous nature.

SOME INTERESTING CASES FROM THE AMERICAN VETERINARY COLLEGE HOSPITAL.

By Members of the Staff.

TUBERCULOSIS IN A LION.—The subject was a male lion, about ten months old, belonging to the Barnum and Bailey Circus, kept at the menagerie in Central Park, New York City. We were called to see him about four weeks ago, and found him in a very emaciated condition, smaller than his associate, but of the same age, and there was observed at this time a considerable enlargement of the thyroid gland of the left side. The animal not being secured it was impossible to make a thorough examination, but suspecting tuberculosis on account of the previous deaths of two other lions belonging to the same collection during the summer from that cause, the animal was put under treatment with that in view. But under the hope that it might be of a scrofulous nature he was placed under the iodide of potassium for the reduction of the enlarged thyroid until a more thorough examination could be made. Upon making a second visit two weeks later we found the patient in a recumbent position, breathing very hard and fast. He could scarcely stand when gotten to his feet, so weak had he become. The thyroid had diminished considerably, though still larger than normal, and the right gland had begun to enlarge. After securing the animal with ropes, and making a more thorough examination, the diagnosis of tuberculosis was made. He died two weeks afterward, and the carcass was brought to the college for an autopsy. On section of the thyroid glands they were both found to be diseased; the lungs were masses of miliary tubercles, and the bronchial glands enlarged. About the ninth rib on each side were found calcareous deposits the size of a hickory nut, and they are now in the hands of a bacteriologist to determine if they are of microbic origin. On entering the abdominal cavity the liver was found to be diseased, but only to a small extent, having a few tubercles on its surface, the gall-bladder rather large, but the mesentery was completely studded with tubercles of various sizes.

PAPILLOMA OF THE MOUTH.—On Saturday morning, October 3d, there was brought to the hospital for treatment a female cocker spaniel dog, suffering with the above named disease. Unluckily the history was somewhat incomplete. The owner had bought the dog some two months before, the patient having the disease at that time, but not so extensively as now. He at once took her to a veterinary surgeon, who ligated one of the larger tumors, which readily sloughed away only to reappear again. Upon examination we found the mucous membrane of the lips, cheeks and tongue almost completely covered with the growths, in different stages of maturity, some as large as a bean, others quite small. To give some idea of the number, I counted twenty-six on the superior face of the tongue, and they were much more numerous on the border of that organ, also on the borders of the lips. The larger ones were in a state of degeneration, as they could easily be pulled away with the forceps, but the smaller were, as a rule, more compact and firmly set in the membrane. As the diseased portion was so extensive the owner was advised to have the patient destroyed, and thus end the little fellow's suffering. This he readily consented to, and left him at the hospital for that purpose. He was kept till the hour of the afternoon clinic for the students' benefit, after which he was destroyed by chloroform.

TRAUMATIC SYNOVITIS SIMULATING FRACTURE.—An aged chestnut gelding was brought to the A. V. C. clinic on Sept. 26th, with the following history: He had fallen down, while at work, on the off side, about four days previously, and when he got up was very lame on the near hind leg and growing gradually worse, until he would not put his foot to the ground. After a thorough examination had been made a diagnosis of fracture was given, owing to the fact that a crepitant sound could be heard at times upon flexing, extending and rotating the leg, but t was only slight; rectal exploration proving nil. Treatment was advised, and he was left in the hospital. A blister was pplied and the animal placed in slings, but he was so restless in them that they were taken away and his head tied up short. There being no improvement in his condition after five days he was destroyed. On post-mortem no signs of a fracture could be ound, but an extensive infiltration into the cellular tissue round the stifle joint. When the articulation was opened a reat quantity of coagulated synovia poured out.

PROTRACTED GESTATION.

By Robert W. Ellis, D.V.S., New York City.

"Hannah Panis," the property of Bingham Brothers, of Westchester County, N. Y., was "bred" to a standard horse on June 3d and 4th, 1895, and became pregnant at that time; the owner having positive knowledge that copulation was never repeated after those dates, although parturition did not follow until September 1st, 1896, after a period of four hundred and fifty-five days, or four days less than fourteen months, when a splendidly formed male colt was delivered, seeming quite happy to be released from his bondage, where he had served seventy-five days over his time of sentence, or two and one-half months.

If some of the practitioners from the breeding districts who have opportunities of making observations daily in this line are able to cite some cases that have departed so far from the normal period of gestation, or anything approaching this case, I shall feel gratified if they will do so, through the columns of the Review, as to *me* it is very unusual.

EXTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

Strongylus Tetracanthus.—In the *Veterinary Record* Mr. W. Pauer, M.R.C.V.S., records a case where, by the history of previous death by tuberculosis in her mate, a hackney mare was supposed to be suffering with the same affection, in taking into consideration the symptoms that she had presented. Turned out to grass as being unthrifty, she had fair appetite, never refusing a feed of corn and was almost constantly grazing. Day by day she wasted away until she was so emaciated that she could not stand up. Her excretions were normal, the visible mucous membranes pallid. Pulse normal in number but weak. Temperature 100° F. Nothing abnormal on auscultation. She never passed parasites. She was destroyed, and, instead of tuberculous lesions, which were looked for, she was found in perfect health, except that in the colon and cæcum thousands of strongylus tetracanthus were found. Tuberculin was not known then, and of course the animal could not be put under its test.

Period of Incubation of Rabies in Dog [*By W. H. Williamson, M.R.C.V.S.*].—This article relates to two cases which came under the observation of the author. One, a toy spaniel, was shown to him with symptoms of rabies. Only a few days previous he had been bitten by a stray dog. The post-mortem confirmed the diagnosis. In the second case, it was a fox terrier, which also died with rabies. On inquiring about his history Mr. Williamson was informed that some nine months before he had been bitten also by a stray dog. A few days before his death he had a small abscess at the place where he had been bitten. The difference between the period of incubation and the length of time elapsed between the two cases is evidently most interesting and worth recording.—(*Vet. Record.*)

DISLOCATION OF THE THIRD CERVICAL ARTICULATION—DEATH [*By E. W. Hoare, F.R.C.V.S*].—Lesions of this nature are seldom met with, and it is rare that even in more extensive injuries following runaways such body lesions are not more common. This was the case of a mare that ran away and received such injurious that when she was caught she was seen walking with a staggering gait and depressed head, which she was unable to raise; it was turned to the left side. The right side of the neck was much swollen and very tender to the touch, and a distinct bony enlargement could be detected at the upper part of the cervical region. The respiration was stertorous, pulse slow and feeble, pupils dilated, and entire inability to swallow liquids or solids. The animal died. At the post-mortem, besides the lesion of the skin and muscles of the cervical region, principally on the upper regions of the neck, it was found that the third cervical vertebra was dislocated upwards and towards the right, the right anterior articular facette being completely above that of the dentata. The spinal region showed its coverings discolored, while the cord itself was in a semi-fluid condition, of the consistency of cream.—(*Ibid.*)

INTESTINAL OBSTRUCTION IN THE HORSE [*By E. R. Gibson, M.R.C.V.S.*].—Cases of intestinal obstruction in the horse do not prove generally of so much interest in a clinical point of view, except at the post-mortem, while at times, besides the presence of calculi, that of other foreign substances come to give the explanation of all the symptoms and of the failure of all medication. This case of the author illustrates this, in which a horse died after a usual case of colic and in which the following was revealed at post-mortem: "Small quantity of fluid in the stomach, pultacious injesta in the small intestine, large colon distended and contents dry; the whole of intestinal mucous membrane much inflamed. Midway along the small colon there was a hard unyielding mass, which, on removal, proved to be a piece of rope 18 inches long, made up of 10 or 11 strands, interwoven, knotted at each end, and from each knot were dependent about 40 smaller strands 8 or 9 inches long and in form of a tassel; weight on removal four pounds."—(*Ibid.*)

GERMAN REVIEW.

By W. V. Bieser, D.V.S., New York City.

Obstruction of the Œsophagus in Cattle.—The author, on January 7th, saw an ox with the following symptoms: Œdema of the neck (phlegmon), respirations 14-15, pulse 60, temp. 38.2° C., prostration, refusal to take food. The tension of the threatening glistening œdema had already been relieved by free incision before my arrival. Next day the swelling had spread, respiration had fallen to 12, with expiratory dyspnœa, temperature had risen to 39.2° C., and the ox died on the evening of the third day of the illness. *Autopsy.*—The inflammatory œdema, which extended clear down to the chest entrance, consisted of a yellow serous, hæmorrhagic infiltration of the subcutis. There were also catharral stomatitis and œsophagitis. In the œsophagus below the pharynx lay a half macerated raw potato. The periœsophageal connective tissue was infiltrated with a serous and bloody exudate clear down to the abdominal cavity. There were pericarditis and fibrinous pleurisy, 100 g. of a serous exudate in the pericardial sac; the heart muscle was in a state of fatty degeneration. There were acute tracheo-bronchitis, hyperæmia of the lungs, commencing peritonitis, swelling of the spleen, and acute gastro-enteritis. A well-marked case of malignant œdema, the site of infection being the œsophagus and the cause of infection the macerated potato.—(*Berl. Thierärzt. Woch.*)

Marked Dilatation of Both Steno's Ducts in a Cow.—In the slaughterhouse at Palermo, G., during the slaughter of a fat twelve-year-old cow, found at the lower border of the lower jaws, soft fluctuating swellings of the size of an egg, which disappeared upon pressure and reappeared when the pressure was removed. Autopsy showed that Steno's duct in its commencement at the parotid gland was thickened, but became dilated to cystic proportions in its facial region—(the size of an apple)—that it narrowed itself into a canal at its buccal extremity. Upon pressing the swelling saliva flowed from the buccal extremity. According to the statement of the owner the cysts had been present since birth.—(*Schweiz. Archiv für Thierhlk.*)

TRANSMISSION OF ANTHRAX THROUGH HIDES AND LEATHER.—G., of Palermo, dried parts of the skin of a cow that had died of anthrax, salted them, tanned them, and essayed cultures from the individual pieces for the purpose of seeing whether they were infectious or not, and discovered, 1st. That long continued drying and salting of the hides of anthrax stricken animals are powerless to prevent infection. 2d. That placing the hides in lime solutions and scraping off the superficial layers of the skin preparatory to converting the hide into leather do not diminish the virulence of the poison. 3d. A 40 days' treatment of the hide with tanning materials did not suffice to destroy all the anthrax germs contained in the hides. Therefore leather is also a possible source of anthrax.—(*Berl. Thierärzt. Woch.*)

STRONGYLUS SUBTILIS A HITHERTO UNKNOWN HUMAN PARASITE—HABITAT, EGYPT.—This parasite was found in the contents of the small intestine of inhabitants of the plains near Cairo and Alexandria. The worms are extraordinarily fine and soft, only appreciable by the microscope. The females are more numerous than the males. The male is 4–5 mm. long, being 0,007 mm. wide at the thickest part of the body. The female is 5–7 mm. long, the greatest diameter being 0,009 mm. The internal anatomy agrees practically with that of our well-known strongylides.—(*Berl. Thierärzt. Woch.*)

NATURAL RESTITUTON OF A TORSION OF THE UTERUS IN A COW.—P. diagnosticated in a 7 months pregnant cow a torsion of the uterus to the left. He could with difficulty insert his finger into the stenosed cervix. As he had no assistance at the time to throw the cow he had to delay the operation for a few hours until help arrived. Meanwhile the cow turned herself two or three times upon the right and the left sides respectively. Before each decubitus she rested for a certain length of time upon her knees arching the rear part of the body. Severe labor pains then came on and after lying down for a few minutes a fœtus was born, showing that natural restitution of the uterus had taken place.—(*Schweiz. Archiv für Thierhlk.*)

INFLUENCE OF VENESECTION UPON THE SPECIFIC GRAVITY OF THE BLOOD.—The specific gravity of the blood may vary in different localities of the body, although the specific gravity of the blood from the earlaps is the same as that of the body. The author found after venesection a fall in specific gravity of from 7 to 11 per cent. Six hours later it gains in specific gravity, reaching the normal in 12 hours again. The author reasons out the theme as follows: Undoubtedly after venesection, in order that the loss in the capillaries may be made good, a soaking up by capillaries of the lymphatic fluids in the lymph spaces outside takes place. Then in all the blood-making organs a regeneration of corpuscles takes place, so that in 6 to 12 hours the blood regains its normal specific gravity and may in some cases even exceed it.—(*Berl. Thierärzt. Woch.*)

BACTERICIDAL POWERS OF DOG'S BLOOD WITH SPECIAL REFERENCE TO THE INFLUENCE OF LEUCOCYTES THEREON.—D. and H. have made very interesting experiments upon the germicidal power of dog's blood. As they discovered that circulating dog's blood had a high bactericidal power, they tried to discover which element of the blood possessed this property. Upon using the blood serum no matter how obtained, *i. e.*, blood minus most of its corpuscles, only faint bactericidal powers were noted. Upon filtering uncoagulated circulating blood, so that only the leucocytes remained behind upon the filter, there was practically no germicidal action at all of the filtered blood. Now inasmuch as the filtered dog's blood differed from the unfiltered blood merely in the absence of the white corpuscles, one must regard these as the possessors of the germicidal power. If one examined a drop of filtered blood containing organisms under the microscope, in a few hours a marked increase in the number of organisms can be seen. If one adds a drop of circulating unfiltered blood thereto, one will find in 10 to 20 minutes that the micro-organisms have been taken up by the leucocytes; those taken up by the leucocytes invariably perish or degenerate (phagocytic action); whereas those micro-organisms which are still free of the leucocytes show no traces of degeneration.—(*Berlin. Thierärzt. Woch.*)

ITALIAN REVIEW.

BOTS IN HORSES.—Prof. Perroncito, of Turin, has already recommended the administration of sulphur of carbon to relieve horses from bots, which in some cases are so detrimental to general health. Given in capsules, this drug possesses such parasitical properties for other parasites (the phylloxera, for instance) that experiments with it were justified. Two Italian veterinarians have used it and obtained excellent results. In one instance four capsules of 12 grammes of sulphur of carbon were given an hour apart, and followed the next day with castor oil, the experiment being carried on upon a herd of 15 colts. An hour after the administration of the drug, there was abundant salivation, in some nervous excitement, in all a comatous period. Three days after the expulsion of the bots began; they were all dead. Some 592 were collected from the 15 patients. In another experiment the same result was obtained on 10 colts. These, however, did not receive the oil; the bots were also expelled after three days. Another veterinarian obtained a similar result with only three capsules of 10 grammes each. From these Perroncito concludes that capsules of 10 grammes for adult animals and of 8 grammes for colts, in numbers varying as to size, two or three will be the dose to use to relieve horses from bots.—(*Giorn. della Reale Societa ed Acad. Veterin. Italiano.*)

GLANDEROUS APPENDICITIS—[*By M. B. Vecchia.*]—To the eight cases already recorded by Boschetti, Miscellone and Kostoff, the author adds the observation of four new cases. Here is one of them as a type: A horse is killed as glanderous. At the post-mortem a truly typical appendicitis of glanders is found. Numerous and characteristic nodules of glanders were on the serous and under the mucous membrane of the point of the cæcum; in the eight last centimetres of the mucous membrane ulcerations were found. The nodules were at various stages of development,—some translucid, others in caseous or calcareous degenerations. Another case is also peculiar. A horse died with experimental tetanus. Clinically he was free from glanders. Malleined, he had hyperthermia, was considered a suspect. At the post-mortem the lesions of appendicitis of glanderous nature, nodules and ulcerations were present and demonstrated the value of mallein and the necessity of attentive exploration for the detection of cæcal glanders.—(*Ibid.*)

BIBLIOGRAPHY.

INDUSTRIES OF ABATTOIRS: KNOWLEDGE, PURCHASE, KILLING OF ANIMALS, ETC. 1 Vol. 16 mo, 356 pages, with 77 figures in the text. (*Les industries des abattoirs, connaissance, achat et abatage du betail, preparation, commerce et inspection des viandes, produits et sous produits de la boucherie et de la charcuterie.*) By L. Bourrier, Sanitary Veterinarian.

The slaughter-house is the last place reserved to farm animals. There they are killed, neatly prepared, cut and sold for consumption. But before reaching our shops, the meat passes through the hands of a whole world of workers. To the sinister work of the killer, succeeds a series of operations composing the art of the butcher. After a general study upon abattoirs and the trade of butchers, the author passes successively in review cattle, calves, sheep, goats, horses and swine: for each he studies the purchase and knowledge of the various breeds, the killing, preparation of carcasses, the remains, the skins, and the accessory products. Indeed outside of the consumable parts, the killed animal furnishes products whose value and use present great importance. What becomes of the skins, blood, fat, horns, bones, and other parts? Nothing is lost, everything has its use.

Mr. Bourrier examines afterwards the meat, its various categories, qualities and preservation. He closes by the sanitary inspection of meats, so important in the hygienic point of view. A long duty at the abattoirs of la Villette, as inspector, has afforded him, better than to any other, the facilities of obtaining all the useful information he has collected.

LEHRBUCH DER VERGLEICHENDEN PATHOLOGIE UND THERAPIE DES MENSCHEN UND DER HAUSTHIERE. (Treatise of comparative pathology and therapeutics of man and domestic animals.) By Dr. G. Schneidemuhl, Prof. of Veterin. Med. at the University of Kiel.

We have received the second part of this work, which treats successively of intoxications, of the diseases produced in men and animals by parasites, of constitutional and of cutaneous diseases. The work promises to be one which will render great service to the physician as well as to the veterinarian, as it will give to both an opportunity to obtain valuable information in the comparative pathology of each class of patients. The first intention of the author was to publish the work in three parts, but he announces that the original plan is changed and that four parts will complete the work. The house in Leipzig, Von Wilhem Engelmann, are the publishers.

BOOKS AND PAMPHLETS RECEIVED.

Rapports et compte rendus du 6e Congrès Internationale de Médecine Veterinaire.

U. S. Depart. of Agriculture—Experiment-Station Record.

3e Congres Internationale d'Agriculture de Belgique.

10th and 11th Reports of the Bureau of Animal Industry (1893–1894.)

Iowa Agricultural College Experiment-Station.

Tuberculosis Investigations. By Dr. D. E. Salmon.

Fowls, Care, and Feeding. By G. C. Watson, B. Agr. M.S.

Farm Animals of the United States. By Henry A. Robinson.

Experiment-Station Record. By A. C. True, Ph. D., etc.

SOCIETY MEETINGS.

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The members of the P. S. V. M. A. assembled in the Y. M. C. A. building, Reading, Pa., and were called to order at 10.15 A.M. by the President, Dr. W. H. Ridge.

At roll-call the following members responded: Drs. Allen, Benner, Collins, Harger, Hart, Helmer, Hoskins, Houldsworth, Lusson, J. C. Michener, Ridge, Noack, G. B. Raynor, T. B. Raynor, Bachman, Dreibelbis. Visitors: Drs. Burkholder and Hogg.

The President then introduced the Mayor of Reading, Mr. Weidel, who warmly welcomed the Association to his city. He spoke of his city as of growing importance in convenience as a conventional city, and in that connection offered us the services of the police for protection should we need it. In reference to the work of the board of health, etc., he intimated that any layman, of his color, politically answered as a meat inspector for his city as long as there was no complaint made by the public, etc.

Dr. Hoskins, who responded in behalf of the Association, thanked the Mayor for the warm words of welcome he spoke. He briefly explained the domain of the veterinarian, the line of work he is peculiarly fitted to perform and informed the Mayor of Reading that it was his duty as guardian of the health of his subjects to provide for his people the best food obtainable, and concerning meats, etc., this could only be secured under the eyes of a man specially trained for the purpose.

Applications for membership: Dr. Geo. Jobson, Jr., Oil City, and W. Howard Wilson, Hatboro. The Board of Trustees reported favorably and they were elected by acclamation.

Dr. C. H. Magil, who handed in his resignation at the last annual meeting, was, with the resignations of Drs. Augustus Koenig, J. C. Blaker, and H. J. Clelland, accepted, upon motion by the association. The President asked their certificates to be returned to the Association.

The matter of changing the day of meeting for this Association was brought up, discussed by Drs. Hoskins, J. B. Raynor, Hart and Noack.

Drs. Harger and Felton then offered the following: "*Resolved*, That the name of the P. S. V. M. Association be changed to Pennsylvania State Veterinary Association."

Under unfinished business the resolution that section 2, Art.

V, of By-Laws be stricken from the by-laws, by W. S. Kooker, W. L. Zuill and S. J. J. Harger, was brought up, and, after considerable discussion and loss of valuable time, it was laid over until annual meeting. The resolution of Drs. Ridge and Zuill from last annual meeting was also laid over until the next meeting.

The Dr. Williams certificate matter was called up, and the committee being unable to report was continued until next morning.

Dr. W. H. Hoskins was then called upon for a report on the work done by the Board of Veterinary Examiners. Discussion postponed until after the report of the Committee on Legislation.

Dr. Hart being called upon for a report of the Committee on Legislation, he said that the committee were unable to get together, consequently he could make no report.

The discussion on the report of the Board of Examiners was then taken up, opened by Dr. Pearson, who thought, since the amount of money allowed by law was insufficient to cover the expenses of the board for their work and that the offering of an amendment to the act would jeopardize the very law, he did not favor offering an amendment at this time, that, inasmuch as the act was in reality one of this association's offsprings, the association ought to take some steps to alleviate their sufferings until their services were better recognized.

Dr. Harger thought that the Association should give financial aid until legislation could be secured to satisfy that end. Drs. Helmer and Hart did not think it advisable to ask for more money from the legislators, as it would jeopardize the whole law. Dr. Harger thought that when the Legislative Committee made their pledge they were sincere, and he moved that the Legislative Committee be authorized to take the necessary steps to procure contributions to help defray expenses of Veterinary Medical Examiners. It carried.

Adjourned for luncheon.

Called to order at 2 P. M. by President Ridge, who called upon the Corresponding Secretary for his report, which he read, and it was received and ordered filed.

Reports were received from County Secretaries representing Bucks, Erie, Bradford, Crawford, Northampton, Lackawanna, Lancaster, Montgomery, Philadelphia and Venango.

The Committee on Sanitary Science and Police (Dr. Pearson chairman) made a verbal report, mainly on the work done by the State Live Stock Sanitary Board. Reports of outbreaks of some contagious or infectious disease in almost every county. In Jefferson County he spoke of an outbreak of a "venereal disease," in which the prominent symptoms were, urethritis, ulcers on end and side of penis. In a mare that was covered by an affected stallion, vesicles appeared in the vagina with the accompanying irritation of the part, succumbed to treatment with creoline injections. The stallion was treated by different veterinarians, but they failed to relieve him, he dying about four months after first being noticed. He did not think it to be eldorine. He reported cases of anthrax, and quite a number of cases reported as anthrax were not anthrax but simply "red water." Saw about 35 cases of glanders. Cases of true rabies appear from time to time, a large number of reported rabies not being rabies but simply a dog at large, away from home or his master, chased by man and other dogs until excited. One case reported to him proved to be true rabies; a dog bit other dogs; —all dogs known to be bitten were shot with the exception of one, which afterwards went mad, bit other dogs, pigs and a steer, the latter going mad. The pigs developed similar symptoms; —everything bitten by this dog went mad or become rabid. It was traced through five generations of disease, finally quelled by a thorough inspection and destruction of the suspected. A veterinarian of Bloomsburg was bitten and died three weeks afterwards from hydrophobia, he himself nor the physician in charge of him not believing in the Pasteur treatment. Five persons in Allegheny County have died from the disease. Hog cholera has been a source of great loss in Centre County, where between 350 and 400 hogs died. Premises were disinfected at the expense of the S. L. S. Board. Tuberculosis, like the poor, is always with us. He regretted that they did not have the co-operation of more of the stock-owners. The Board has examined about 2,400 head of cattle and found about 25 per cent. affected, in some parts of the State they have not found any tuberculosis and in other parts have failed to find a herd free from the disease. He requested veterinarians to send specimens or parts to the laboratory which the department has equipped at the U. of P. He reported a peculiar form of pneumonia in cattle; he doubts whether it is contagious, liketuberculosis, but gives no reaction to the tuberculin test. It's a form of chronic catarrhal pneumonia, characterized by the formation of fibrous tissue, affects whole herds, probably due to some local trouble. Diseases of fowls is given more attention. It is one of the most important industries, about $8,000,000 being invested in poultry, with a production in value of about $14,000,000. Poultry yards yield as much as the wheat fields. 10 per cent. die annually from disease. He is getting up a report for the Secretary of Agriculture; wishes the veterinary profession to report outbreaks of diseases, abortion, etc.

A vote of thanks was extended Dr. Pearson for his able report.

There were no communications, but there were telegrams from Drs. Sallade and Lockwood regretting their inability to attend.

Dr. Lusson reported a case of rabies where the dog had been with the family for about a week; no bad results followed to the family.

Dr. Hoskins guarded the members against the indiscriminate use of the terms hydrophobia, epidemic, etc., as they belong to the human family. Rabies and epizootic are more correct.

Dr. Felton reported a case where a puppy had bitten a dog, dog showed unmistakable symptoms of rabies; boy remains healthy; cultures made at the bacteriological department of the University of Pennsylvania proved it to be rabies.

Reading of papers being next in order, the Chair called upon Dr. J. C. Michiner for his paper on "Parturient Apoplexy"; Dr. Ross, "Parturient Apoplexy"; Dr. Allen, "Acetanelid"; Dr. Felton, "Canine Distemper" *; Dr. Helmer, "Homeopathy versus Regular Practice" *; Dr. Hoskins, "Pyoktanin, or Methol Violate." The papers were exceedingly interesting and instructive.

Discussed by Drs. Helmer, Hoskins, James, G. B. Raynor, T. B. Raynor.

It being almost 6 P. M., a large number of the members anxious to meet the train, the discussion was brought to a close, and the meeting adjourned.

W. G. BENNER, *Recording Secretary.*

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting of the Veterinary Medical Association of New York County was called to order Wednesday, Nov. 4, 1896, at 8.45 P. M., by the President, Dr. Huidekoper, at the Academy of Medicine.

On roll-call the following members responded, viz.: Drs.

---

* Printed elsewhere in this number.

Delaney, Ellis, Foy, Giffen, Gill, Huidekoper, Hanson, Jackson, Lamkin, MacKellar, Neher, O'Sheaand Robertson.

The minutes of the previous meeting were read, and, after slight correction, approved.

The Board of Censors (Dr. Gill, Chairman) reported favorably on the names of the gentlemen who had applied for membership ; but, owing to a slight error in the form of applications, the Chair directed that the names be withdrawn for action until the application be presented in proper form. The board also recommended to the society that the Secretary be authorized to notify all members eighteen months in arrears that if said arrears were not settled by the next meeting their names would be dropped from the roll. Moved and seconded that the report be accepted. Carried.

Dr. Gill reported a case of osteo-porosis, which was followed by an interesting discussion, opened by Dr. Hanson, and participated in by Drs. Neher, Robertson and others.

Dr. Giffen next reported a case of hæmorrhage from the lungs in a horse, with recovery, to be followed by a relapse ten days later, which resulted in death in ten minutes from time of attack. This case was freely discussed by Drs. Robertson, Gill, Neher, and Hanson.

Dr. Robertson then reported a post-mortem which revealed a case of osteo-sarcoma, which he had not had the opportunity of seeing alive, but which had been diagnosed as a case of pharyngeal paralysis. A very interesting discussion followed by Drs. Gill, Hanson, Jackson and others.

Dr. Gill next reported a case of prolapse of the vagina in a bitch, and Dr. Jackson a case of fracture of the facial bones due to a runaway.

The Judiciary Committee (Dr. O'Shea, Chairman) reported that the committee had a warrant out for one illegal practitioner, to be served as soon as they can locate his present abode, and that they have other cases on which they are going to proceed immediately, and that in reference to the case of compelling a practitioner to remove an assumed degree from after his name, the committee would consult the association's counsel before proceeding.

Moved and seconded that the report be accepted. Carried.

The Committee on Board of Health Question (Dr. Robertson, Chairman) asked permission to report progress, promising to have a written report for December meeting.

Moved and seconded that the report be accepted. Carried.

Resolutions offered by Dr. Hanson, and signed by Drs. O'Shea and Gill, that an amendment be made to Art. IV. of the Constitution in reference to the annual election of officers, so as to correspond to change in Art. XIII. of the By-Laws, to read as follows: "Annual election shall take place on the evening of the first Wednesday in December." Moved and seconded that the resolution be accepted. Carried.

Moved and seconded that the Secretary be authorized to purchase a rubber stamp, to be used to stamp on the face of application blanks, that the initiation fee of five dollars must accompany the application for membership. Carried.

Moved and seconded, that the Secretary be authorized to notify members that the election of officers will take place on the evening of the first Wednesday in December. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Secretary.*

COLORADO STATE VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of this Association was called to order at 3 P. M., Oct. 28th, at the office of the President, Dr. S. Bock, No. 1250 Glenarm Street, Denver, Colo. The President, Dr. Sol. Bock, in the chair.

The following members answered to roll-call: Dr. S. Bock, Dr. F. W. Hunt, Dr. Chas. G. Lamb; Dr. Chas. Gresswell; Dr. W. A. Rushworth; Dr. E. Pouppirt, all of Denver, and Dr. D. P. Frame of Colorado Springs. Dr. A. J. Savage, of Colorado Springs, visitor.

The principal object of calling the meeting at this time was to consider the matter of legislation in behalf of the profession in this State this winter. The old bill which was introduced two years ago was taken up and reconsidered, and after some few alterations in the phraseology, and one or two amendments were made to it, it was considered satisfactory. The principal amendment made was that of Sec. 5, permitting those non-graduates who have practiced continually in the State for five or more years to register under the new law.

Moved by Dr. Gresswell that the regular meetings of this Association in the future be held on the Tuesday following the first Monday of January and July of each year. Carried.

Dr. Frame proposed the name of Dr. A. J. Savage for membership, and he was at once elected a member.

Drs. Gresswell and Rushworth were appointed to read papers on glanders at the meeting in January.

Dr. D. P. Frame was appointed to superintend the introduction of the proposed new bill in the legislature this winter and to represent the Association in the consideration of the same.

It is proposed now to hold regular semi-annual meetings of this Association, as we have now been organized over two years and have been making some effort to secure legislation in our behalf. We hope to succeed in our effort this winter.

The next meeting of this Association will be held in Denver, January 5th, 1897. D. P. FRAME, M. D. C., *Secretary.*

PENNSYLVANIA STATE BOARD OF VETERINARY EXAMINERS.

A special meeting of the State Board of Veterinary Medical Examiners was held in Harrisburg, in the State Capitol, October 20 and 21. Five applicants were examined for a license to practice in the State of Pennsylvania, of whom three were successful: W. H. Yingst, Harrisburg, Pa.; F. H. Schneider, Ashland, Pa., from the New York Veterinary College, and J. H. Burt, Union City, Pa., Ontario Veterinary College.

The members of the Board present were: Drs. W. H. Hoskins and S. J. J. Harger, of Philadelphia; J. C. McNeal, of Pittsburg; and J. W. Sallade, of Pottsville.

The next special meeting will be held December 15th and 16th in order to examine new applicants, as well as those who failed at the June examinations.

For any information applicants should address the Secretary, 205 N. 20th Street, Philadelphia.

S. J. J. HARGER, V. M. D., *Secretary.*

CORRESPONDENCE.

A DEFENCE OF THOSE "PECULIAR VIEWS FROM A HIGH OFFICIAL."

COLLEGE PARK, MD., Nov. 7, 1896.

Editors American Veterinary Review:

GENTLEMEN:—Have just read the article in the November REVIEW, styled "Peculiar Views from a High Official"; and think, even though the views may be "peculiar" or may bear criticism, that there is more truth in those views than said article seems to give the gentleman credit for. He (Major Alvord) says, "a distinction must be made between diseased cows and sick cows." This I think very well put, for can this Government afford to recompense each owner for every diseased animal he may possess? Decidedly not, nor have we any right to compel a man, by forced legislation, to bear this injustice.

If we knew the percentage of tuberculous animals to be as small as the records show contagious pleuro-pneumonia cases to have been, then we could and ought to deal with it in the same manner, but how extensive this disease is we do not know. Before we can use such radical measures with this disease in cattle as were used against pleuro-pneumonia a few years back we must also legislate against the human race, dogs, cats, hogs and birds, and not discriminate against the cow.

Contagious pleuro-pneumonia was fought from its introduction into the country by local and a little later by national legislation, and never was it allowed to go much beyond the Eastern States. Not alone that, but it was confined to a single species of animal. Here, however, we are confronted by a disease known to almost all species of animals, capable of transmission by foul air, impure water or contaminated food, and, if we believe some of our best authorities, seldom by heredity.

The predisposition is without doubt transmitted to the offspring, but if hygienic measures are observed, that predisposition is bound to be overcome in the majority of cases.

The point made by Major Alvord that the sanitary inspection of dairies is of far more importance than the destruction of tuberculous herds is, to my views, well taken.

Granting that more disease is contracted by other conditions than by hereditary tendency (and I do not think this asking too much), then it is evident that only by strict sanitary and hygienic measures can the disease be eradicated.

Our legislation if confined to the slaughter of diseased and sick animals is worthless, though expensive, unless we have rigid sanitary laws to back it up.

There is no doubt in my mind that the milk from dairies of uncleanly management is responsible for a greater share of the mortality, especially of children, than from the infection by tuberculous animals.

The following I quote from an editorial in the *Medical Review*: "Public hygienic measures, whose utility can be demonstrated without a doubt, should be carried out strictly and without compromise. Just as soon, however, as a proper measure of reform cannot be backed up with a sufficiently reasonable proof as to its necessity and usefulness, public hygiene may create the impression in certain circles as being annoying and meddlesome.

There can be no doubt that, generally speaking, the milk from tuberculous cows should be avoided as a nourishment. * * * It is true that, even where the udders are not infected, chemical products due to the tuberculous process in some other part of this body may enter the circulation in greater or less quantity, and thus contaminate the milk as well as other secretions. But the main question is: Are there exact and conclusive experiments on record from which it is evident that milk under such conditions is injurious or objectionable as a nourishment; is not the assumption that such milk is unfit for use an hypothesis that needs to be proven? Public hygiene must be based upon absolute facts, not upon hypotheses, although they may have in their favor some arguments that find support in scientific truths."

This seems to bear out in general the views expressed by Major Alvord, and I do not believe its author or Major Alvord or any one interested in the welfare of stock and public health would advocate any compromise in the matter if there was the slightest possibility of stamping out the disease by such legislation as seems to be desired by veterinarians on the Pacific coast.

Pure air, pure water and sunlight are free to everyone who cares to take advantage of them; and it certainly seems more economical, less troublesome and equally, if not vastly more, effective and lasting when coupled with the recommendation of Major Alvord for the slaughter of all animals sick of tuberculosis, than by the adoption of a compulsory tuberculin test.

But I should like to ask, Mr. Editor, to whom are we indebted for our knowledge of the existence of the bovine tuberculosis, the diagnostic tuberculin, for serum-theraphy and most of our bacteriological and theraupeutic knowledge but to our friends on the other side of the Atlantic whom we are invited to ignore? To all appearances these criticisms directed at that "High Official" seem to indicate personal rather than scientific motives. However, there is room for much discussion before radical measures are taken to enforce "Tuberculin Reform" rather than that free-for-all "Sanitary and Hygienic Reform."

Very respectfully,

SAM'L S. BUCKLEY.

SECTIONAL WORK IN THE U. S. V. M. A.

KANSAS CITY, KANSAS, Nov. 20, 1896.

Editors American Veterinary Review:

DEAR SIRS:—Your comments concerning the future work to be carried on by the U. S. V. M. A. in an editorial in the

October number of the REVIEW were timely and I trust you will give further editorial consideration to this subject.

The future course of the Association should be well understood by applicants for membership, and if its work is to be directed along purely educational and sanitary lines, the great body of the present membership will feel as though it related to their labors indirectly. They will continue to withdraw or drop out, realizing their more immediate interests will be better subserved through local and State organizations. The United States, or more properly the American Medical Association, has a very much larger membership than the U. S. V. M. A., and it successfully conducts its meetings by holding general sessions which interest all its members for one part of the day, and special sessions during another part of the day in sections for the several divisions or special phases of medical practice, and there is no good reason why our Association cannot profit by the experience of the A. M. A. Their membership is made up of individuals distributed throughout the United States just the same as ours. Editorial in the November *Jour. of Comp. Med.*, p. 788, alluding to this matter is along the right line, but the subject is worthy of much fuller discussion. I am fully persuaded that the best interests of the profession in general, and our Association in particular, will be subserved by keeping all lines of veterinary interest within the one fold. This cannot be done if one particular line is allowed to monopolize the major portion of time and energy. What think you of making the sessions general during the forenoons of each day, or perhaps the second and third days, and sectional during the afternoon? I trust you will encourage discussion along this line,

S. STEWART.

[The REVIEW thanks Secretary Stewart for his free expressions upon this subject and invites like communications from others of the workers and thinkers, feeling assured that a full discussion of the important subject can but result in good to the profession and the Association.]

WHY NOT FOR VETERINARIANS?—A Vaginal Injection for Leucorrhœa.—Lirola (*Revue Internationale de Médecine et de Chirurgie*, September 10, 1896) recommends the following formula: Tannin, 6 parts; alcohol and creosote, of each 3 parts; water, 24 parts. M. A tablespoonful is to be added to a quart of warm water, which may be injected as often as three times a day.

NEWS AND ITEMS.

Dr. L. McLean, of Brooklyn, N. Y., has recently returned from a visit of pleasure to Richmond, Va.

Hog Cholera is especially severe in Northern Iowa, and is reported at numerous points throughout the corn belt.

Why Don't You send the Review that last interesting case that you treated, especially if you held an autopsy? There are others.

The Legislatures of Many States will be asked at the coming sessions to make laws for the protection of their citizens against veterinary empirics.

In 1892, according to government reports, Michigan's horses were valued at $40,757,393. In 1896 the value is placed at $20,340,685, a decline of fifty per cent.

The next meeting of the Virginia State Veterinary Medical Association and the State Board of Veterinary Examiners will be held in Staunton, January 5th, 1897.

"Reports of Cases" is a department of the Review which dispenses a great deal of practical information. Theory takes second position in that department.

L. L. Lewis, D. V. M., formerly demonstrator of anatomy and house surgeon at the Iowa Agricultural College, has been appointed veterinarian at the Oklahoma Station.

Switzerland Imports Cattle to the value of $5,000,000 annually. Austria and Italy are the main sources of supply with next to no American beef bought direct in this country.

Help Along Your Profession.—The best method of doing so as an individual is to see that your fellow-practitioner is a subscriber to one or all of the veterinary periodicals of this country.

Dr. G. Howard Davison, of Millbrook, and Lyman P. Haviland, of Camden, have been appointed members of the Board of Control of the New York State Experiment Station at Geneva.

Farriery is being conducted at the Kansas City Veterinary College. It will extend over a period of three months. A general interest in this subject is being taken by the horseshoers of Kansas City.

"Veterinarians as Sanitarians," the interesting paper read before the New York State Veterinary Medical Society by Dr. Claude D. Morris, of Pawling, will be published in the January REVIEW.

JUDICIARY COMMITTEE.—Why should non-registered men fill the positions of meat inspectors in New York City? Is not this against the law for non-registered men to practice any branch of veterinary medicine?

THE LOUISIANA STATE EXPERIMENT STATION has just issued "Bulletin No. 43," which consists of a report by Veterinarians W. H. Dalrymple and S. B. Staples upon "Bovine Tuberculosis in North Louisiana."

"INFECTIOUS OPHTHALMIA OF CATTLE" is the title of a paper read by W. F. Weese, V. S., of Ottawa, before the late meeting of the Illinois State Veterinary Medical Association, which will be published in the January REVIEW.

THE next quarterly meeting of the Missouri Valley Veterinary Association will be held in Kansas City, Mo., December 9, 1896. Several interesting topics will be discussed by essayists, one of which is the "Control of the Spread of Contagious Diseases through Public Stock Yards."

DR. GEO. H. BAILEY, State Veterinarian of Maine, said in a recent interview that he believed his State was freer of tuberculosis than any other New England State; that the percentage of diseased cows would not reach 2, and that Dr. Choate's estimate of 15 per cent. was four or five times too high.

NEWTON BRYANT, of Kansas City, Mo., was arrested at the Madison Square Horse Show on the evening of the 11th of November, at the instigation of the New York County Veterinary Medical Association, charged with practicing veterinary medicine without having registered or possessing proper certificates.

HASN'T LEARNED OF HIGHER EDUCATION.—The following letter has been submitted to us by a New York gentleman, received from a Massachusetts correspondent: "Dear sir: I am Sorry to disturbe once more. I wish to take a Short Coarse in a Veterinary School do you know of one in new York, that gives Short Coares."

HORSESHOERS' EXAMINING BOARD.—The following gentlemen have been appointed by the Governor of New York to examine applicants for the license of horseshoer in this city: Veterinary member, Thomas M. Quinn; representing the master horseshoers, Thomas Carroll, of New York, and Robert Keenan, of Brooklyn; representing the journeymen horseshoers, Homer A. Grove, of Rochester, and Charles W. Kirk, of Albany.

INFECTION BY PETS.—Cats have been suspected of conveying the infection of diphtheria, and scarlet fever has been traced to them. To this may be added the unwelcome news that a health officer has reported a case of small-pox which has been brought about in the same way; that is to say, by a cat from an infected house entering a neighbor's.—*Popular Science.*

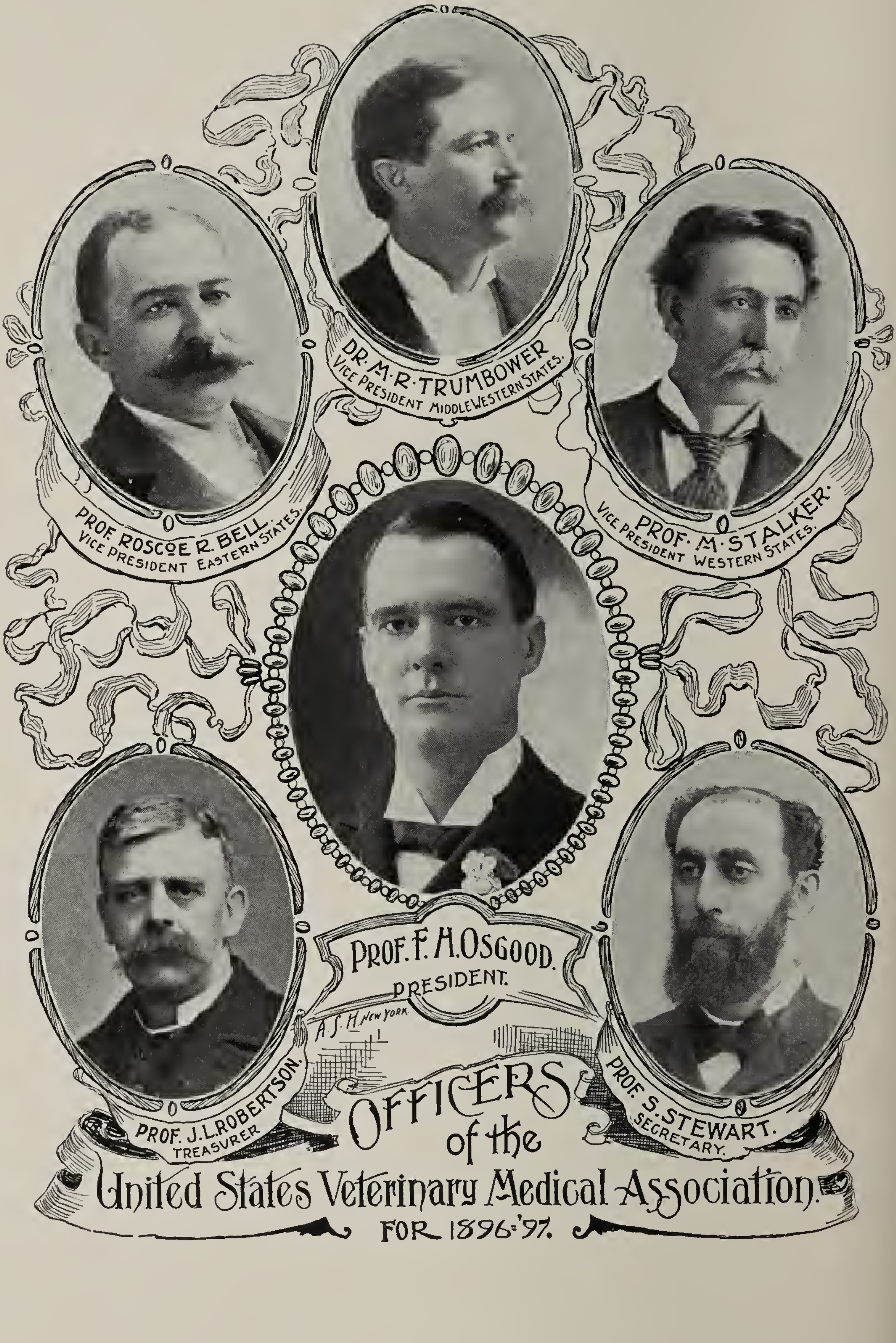
A VETERINARIAN'S MILITARY INVENTION.—The Boston Sunday *Herald* of November 1st, contains a long descriptive article of a new military bit and bridle which is soon to be issued to the mounted troops of Massachusetts. It is the invention of Lieutenant Austin Peters, Veterinary Surgeon, First Cavalry. It has been adopted by the State, is entirely an original conception, and is stated to have many superior qualities over any other combination bit and bridle that has hitherto been in use. The inventor is a veterinarian well known to the fraternity everywhere.

TUBERCULOSIS IN NEW YORK STATE.—Dr. Frederick W. Smith and Owen Cassidy, comprising the State tuberculosis committee, have made a second report in which they regret they have no appropriation to pay inspectors and for cattle slaughtered and consequently can do but little work in eradicating tuberculosis in cattle. They report much good done in giving advice and thus preventing the spread of the disease. They cite cases of illness traced to tuberculosis in cattle, and instances where persons had sold tuberculous cattle to other individuals for the purpose of getting rid of them with as little loss as possible. The members of the committee each receive $250 salary monthly.

THE VIRGINIA STATE VETERINARY EXAMINING BOARD met in Richmond, Nov. 2d, and issued certificates of registration to all persons in the State who were legally entitled to them. The time in which existing practitioners could become registered expired Oct. 31st. Hereafter any person who desires to begin the practice of veterinary medicine or surgery must pass a satisfactory examination before the board, before a certificate will be granted. Dr. W. H. Harbaugh, President of the Board, writes the REVIEW that any person who practices without a certificate will be prosecuted to the full extent of the law. He further says: "Those who were opposed to our law on the ground that we would have to register hundreds of ignorant pretenders will be glad to learn that only 22 non-graduates are registered, and at least half of them were practising in the State many years before a graduate entered the State. Our law clearly defines what constitutes the practice of veterinary medicine and surgery, and this definition the board construed to apply to the past as well as to the present and future, and hence, those entitled to registration were restricted to persons who conformed to that definition."

CO-OPERATIVE LIVE STOCK INSURANCE.—In Italy the principle of co-operation for the insurance of horned stock is extensively acted upon—proof of its utility. The government has decided to award prizes varying from £120 to £80 for the most successfully-managed of these mutual societies, the object being to base thereon a scheme for general adoption. In France the cattle insurance companies are of two kinds: First, where the insured pay in advance a premium of so much per cent. upon the value declared. In ordinary years the society accords from three-fourths to four-fifths of the loss; in time of a calamity, only one-third. If the reserve fund swells newcomers are charged a higher premium. In this plan the policy holder is only certain of one fact—his risk is limited to his premium.

SWINE PLAGUE IN INDIANA.—Dr. A. W. Bitting, veterinarian at the Purdue Experiment Station, Lafayette, Ind., has issued a bulletin calling attention to the prevalence of swine plague in that State. We quote: "The disease is well disseminated in the State this fall and the season of greatest loss will soon be upon us. Every effort should be made to lessen its ravages as much as possible. An important factor in reducing the loss is to provide proper shelter, as all hogs with only a mild attack or having apparently made a recovery may take a relapse if exposed to a cold rain or a sudden change to rough weather. There are thousands of hogs now in a condition to become affected with pneumonia which would escape if given a little protection. Any shed which will keep off the rain and break the wind is sufficient. The floor should be dry, but little bedding is needed and that renewed frequently. Burn all litter and bedding once a week. Keep the herd divided so that crowding is impossible. Remember a strawstack is the most unfavorable place that can be provided for sick hogs. The essentials in prevention are good food, *pure water*, and *clean*, *dry quarters*. The station would be pleased to receive information from any source as to the presence of the disease and of all successful ways of checking it."


DR. M. R. TRUMBOWER
VICE PRESIDENT MIDDLE WESTERN STATES.
PROF. ROSCOE R. BELL.
VICE PRESIDENT EASTERN STATES.
PROF. M. STALKER.
VICE PRESIDENT WESTERN STATES.
PROF. F. H. OSGOOD.
PRESIDENT.
PROF. J. L. ROBERTSON.
TREASURER
PROF. S. STEWART.
SECRETARY.
A. S. H. NEW YORK

OFFICERS of the United States Veterinary Medical Association. FOR 1896-'97.

AMERICAN VETERINARY REVIEW.

JANUARY, 1897.

EDITORIAL.

THE MASSACHUSETTS BOARD OF CATTLE COMMISSIONERS.

For two years the veterinary world has had its eyes rivetted upon the Bay State, watching with the keenest interest the outcome of the system which she had inaugurated with the lofty object of detecting, controlling, and probably eradicating tuberculosis from the herds of that Commonwealth. That result was to have been accomplished by the aid of tuberculin, quarantine, and slaughter, and her regulations were deemed so much in accord with scientific conceptions that the step was regarded as a gigantic and intelligent experiment, which was not only to produce the happiest economic results for the stockmen of that State, but which would confer the greatest benefit upon science, and, if successful, would receive adoption in many, if not all, of the States of the Union where the industry is of large proportions. While murmurings of dissatisfaction have recently been heard that the powers of the Board were gradually being restricted by interested legislation, we regret to lay before our readers the letter of Professor Osgood, Chairman of the Commission, addressed to the Governor of the State, in which he gives a detailed account of the circumstances which have led him to tender his resignation, which the Chief Executive accepts. The story of the obstacles which the Commission has had to encounter in adverse legislation is very fully given in Prof. Osgood's communication, and we print it herewith in full:

COMMONWEALTH OF MASSACHUSETTS,
BOARD OF CATTLE COMMISSIONERS,
52 VILLAGE ST., BOSTON, Nov. 30, 1896.

To His Honor Roger Wolcott, Lieutenant Governor and Acting Governor:

SIR:—I hereby beg to tender to you my resignation as a member of the Board of Cattle Commissioners of the Commonwealth of Massachusetts, and to respectfully request that it be accepted at once. My reasons for taking this step at this time are, that my convictions forbid my further implied responsibility in the execution of a law which was passed against my earnest protest, and which, in my opinion, involves the expenditure of a large sum of public money without adequate return to the State, especially in view of the fact that plain indications point to a still further divergence from what I believe to be the only wise and efficient system of dealing with contagious diseases among cattle.

I was appointed a member of the Board on the third of July, 1894, and soon became its chairman. I accepted the appointment at considerable personal sacrifice, because I felt there was need of prompt and vigorous action which should tend toward the eradication of tuberculosis from among the neat cattle in this State, the widespread existence of which I considered a serious menace to the public health; and because I believed that the law of 1894, under which I was appointed, placed in the hands of the Board full and adequate power to enable it to cope with it successfully.

Following this, after a most thorough and careful consideration of all the facts, the Board came to the unanimous conclusion that by using the somewhat recently discovered tuberculin, as a diagnostic agent, they could, without harm to sound cattle, detect tuberculosis in the affected animals with very great precision; and that by a careful and systematic examination of all the neat cattle within its borders, and the destruction of all found diseased, the State could, within a reasonable time, eradicate tuberculosis from its neat stock.

Acting under the provisions of the law of 1894, the Board in November, 1894, began such an examination in three of the southeastern counties of the State, which included the removal and destruction of the diseased animals and a thorough disinfection of the premises where disease was found; and thereafter, until the law was changed, maintained a rigid quarantine over the territory in which the work had been completed. Had the Board been allowed to continue this work throughout the State, I believe that within a comparatively short time, and with an expenditure small in comparison with the good accomplished, the State would have been able to stamp out this disease.

While the plan adopted was capable of more or less modification in detail, I believe that no permanent good can ever be accomplished except by pursuing a policy which shall substantially embrace this method of operation.

At the time when the report of our Board was submitted to the Legislature in January, 1895, the systematic work had but just been inaugurated, and no fair opportunity had been given for fully testing its efficacy. Even at that stage, however, it was yielding extremely good results; results far better, I believe, than can be accomplished by any other system, or than has ever been accomplished in any other part of the world in this class of work. In our report for that year the Board unanimously recommended a continuation of this work.

The Legislature of 1895, however, disregarding the recommendations of the Board, enacted a law depriving the Board of the power to use tuberculin as a diagnostic agent, without the written consent of the owner, and, as a necessary result, took away from the Board the power to continue its systematic inspection. At the same time the price which the State must pay for animals destroyed as tuberculous was practically doubled. The passage of this law gave to owners the power of preventing this Board from detecting and destroying diseased cattle for the public good ; thus changing the entire spirit of the law from an act to eradicate disease, into an act enabling owners of diseased cattle to have only such animals as they desired examined, condemned, and paid for by the State at, practically, their sound values. No law, having for its object the removal of a widespread but secret danger to the public health, can ever be successful where the right of the authorities to make inspection for the purpose of detecting the presence of the danger is dependent upon the whim or interest of the person having control over it.

At the time when this restrictive act was passed, it was understood to be but a temporary measure for the period of one year, to enable the owners of cattle to become better informed as to the value of tuberculin and the general advantages of the work. Had I believed that the law of 1895 was to continue for a period of more than a year, I think I then should have declined to continue as a member of the Board. Feeling, however, that it was but a temporary check and recognizing that in the meanwhile considerable good could be accomplished through the examination of isolated herds, I felt that my duty required that I should further continue in my office.

Soon after the passage of the law of 1895, and after the abandonment of the systematic work, the Board inaugurated the system of examining entire herds upon the written request of the owners. In this way considerable good was accomplished. The disease was removed from local centres, and the milk to this extent purified and made safe for human consumption. Such a system, if continued, would have been of material good to the State, but even then the good accomplished would not have been commensurate with the expense, because the Board had no power to prevent the owners from thereafter introducing diseased animals ; and inasmuch as untested animals could be purchased at a less price than those that had been tested, and as the State paid the full value for the animals if afterwards found diseased, the owner had no pecuniary inducement to keep his herd free from subsequent contagion.

The Legislature of 1896, against the express wishes of the Board, and contrary to my conviction personally expressed to the committee having the matter especially in charge, passed a law which not only continued the restriction of the use of tuberculin, but at the same time so limited the manner in which the appropriation could be expended as to render it impossible for the Board to continue further even the examination of isolated herds upon the owners' request.

Under the provisions of the law as it now stands, the Board is not only powerless to take any effectual general measures to protect the public food-supply derived from neat cattle against contamination by the germs of tuberculosis, but, further than this, when a badly diseased animal has been discovered, the fair presumption being that others equally as dangerous are in the same herd, the Board is powerless to compel a proper examination of that herd to ascertain the fact. Its whole work is now practically limited to the examination and destruction of animals in which the disease has so far advanced that it can be detected by a physical examination made by local inspectors, a large proportion of whom have not been specially trained. A physical examination, even when conducted by those having the highest skill, fails to detect the disease, in a large percentage of cases, and consequently, can never prove satisfactory, if eradication of the disease is the object in view.

On September 30th, the Board issued a general order to all the inspectors in the State, providing for a regular and thorough inspection, by physical examination, as provided by law, of all neat cattle throughout the Commonwealth, and directing that such examination be completed before December first. The time for this examination has now expired, and the work of the Board for the present year is, therefore, practically ended.

While the expenditure has necessarily been large, a considerable portion of the appropriation still remains in the hands of the treasurer, while there are but a few days of the current year left to be covered.

Feeling, therefore, that there can be no permanent improvement of the herds in the State commensurate with the expenditure involved, and that there is little promise of suc legislation as will make such improvement possible, I am convinced that I cannot consi tently remain a member of the Board. Very respectfully yours,

F. H. Osgood.

The Governor sent the following acceptance:

Commonwealth of Massachusetts,
Executive Department,
Boston, Dec. 7, 1896.

Dr. Frederick H. Osgood, Chairman Cattle Commissioners.

Dear Sir :—In accordance with your expressed wish, I accept your resignation as member of the Board of Cattle Commissioners, to take effect this day.

I regret that the Commonwealth is to lose your faithful and efficient services.

Very truly yours, (Signed) Roger Wolcott.

The Review deeply regrets the circumstances which have necessitated the action taken by the Chairman of the Board, for it feels that the profession has lost a grand opportunity to have profited by the results which promised so much. The profession of the State should unite to reinstate the law of 1894, and we have no doubt that they will receive assistance from all intelligent sources which are not hampered by individual interest. As showing the sentiment of the press, we quote two extracts from Boston papers upon the subject:

[*Boston Transcript, Dec. 9.*]

"In resigning his position of member and chairman of the State Board of Cattle Commissioners, Dr. F. H. Osgood has acted logically as well as conscientiously. As he clearly points out in his letter of resignation, he could not, with self-respect, continue his connection with the board, for by so doing he seems to be in accord with the laws which it is the duty of the board to administer. The laws relative to the inspection of cattle are so inadequate as in effect to be utterly useless towards stamping out tuberbulosis or other diseases; it would seem, indeed, as if their sole purpose were to prevent any interference with the monetary interests of farmers and cattlemen, regardless of the spread of disease either among animals or the human family."

[*Boston Herald, Dec. 9.*]

" . . . He has also in a very marked degree met and overcome the opposition which at the outset presented itself to the use of tuberculin as a diagnostic of bovine tuberlosis. His work has satisfied the most intelligent and fair-minded portion of the community, and has won the commendation and compliment of veterinarians and agricultural experts who have been engaged on similar lines throughout the country. The work inaugurated and carried forward in this State has been the pioneer and the model toward which other States are now advancing. . . ."

Since the above was in type, we learn with pleasure of the appointment of Dr. Austin Peters, of Jamaica Plain, to the place on the Board made vacant by the resignation of Prof. Osgood, and we trust that the energy, intelligence, and enthusiasm which he will take with him into the office may be instrumental in great good to the cause of the scientific conception of the Commission, and that he may be the nucleus around which may gather a movement to restore the original law.

At a meeting of the State Board of Cattle Commissioners, held on Tuesday, Dec. 22d, for the purpose of reorganizing, Dr. Austin Peters was elected Chairman and Dr. Jno. M. Parker (who was recently appointed to succeed Prof. Chas. P. Lyman) was selected as Secretary.

OPENING ADDRESSES.

The custom of delivering addresses at the opening of a course of lectures in scientific institutions is, if we are not in error, an Anglo-Saxon habit which has found its way across the Atlantic ; and, like many other habits, has for years maintained a foothold, especially in medical colleges, and, of course, the example had to be followed by veterinary institutions. There has been of late, however, a retrogression. Medical colleges have in several instances ceased the delivery of the opening lectures, and probably the same fate is reserved to it in veterinary colleges.

It is not our object to consider their usefulness or their value—often of no interest as being addressed to young students entirely ignorant of the subject presented to them ; often treating of branches of their studies which are not at all understood by them. It is seldom that their delivery is required, or, at least, if they are justifiable, it seems to us that it is when a newly created institution opens for the first time its doors for the reception of a new and first class of students; in other words, at the inauguration of a new school. Such were the circumstances attendant upon the one delivered by Prof. James Law, at the inauguration of the New York State Veterinary College.

What we have said above of the value of addresses, certainly does not apply to that of Prof. Law—what he writes is always valuable; what he reads is always useful and interesting; what he permits publication of is always sure to deserve credit, to gather admirers, and to convince unbelievers. His address has done justice to the demands of a great State like New York; it has shown the necessity for the establishment of what may be called a government institution; it has pointed out the prospective positions that veterinary graduates may expect to obtain, and the services that they may then render to the community; in fact he has well laid before his listeners the evidence that New York is still the great State of yore, progressive in all branches of education.

It is, however, to be regretted that Prof. Law has seen fit at the beginning of his address to advance *general* statements of a very reflective nature, which are undeserved, or, at least, not applicable in the case of those private undertakings which have been created in this country in behalf of veterinary medicine, especially in so far as New York State is concerned. The statements are erroneous and certainly unjust; taking away, without exception, the credit which is due to those who have been pioneers in the work, which to-day only is undertaken in a thorough manner by the New York State Veterinary College. They, by honest, unselfish, and self-sacrificing devotion to the single purpose of building up a new science in this country, have made it possible to begin the work of educating young men under the broad and sheltering patronage of the great EmpireState.

To say that "the founders of private schools were met at the threshold by the imperative questions: will the venture pay? will the name of the college bring us greater or more remunerative practice? Will the prospective fees, fame and practice warrant the investment?" and again, "The pressure is heavy to shorten the curriculum, to admit ill-prepared candidates, to graduate large numbers irrespective of fitness, to abridge the already short course, *to sell diplomas.*"

No doubt these serious charges may, unfortunately, be true; but has it been such for all? Is it true of all the men who for years have worked for the elevation of the veterinary profession, have raised their requirements for matriculation, have increased their curriculum, have gradually demanded of their students a longer attendance at college, have sacrificed time and money, without the slightest consideration of what might come back to them? Are these men to be accused, as Prof. Law accuses them, of low and disgraceful motives? We think not. To involve them among those who may have been guilty of the accusations made by the honorable professor is not only an injustice, but an assumed pretension of priority in the work which might be accepted as true by those who do not know. He is too familiar with the history of veterinary medicine in America to believe what he has said; the conclusion is that he has given utterance to it for effect upon those who listened to him, and for the plaudits of the gallery, whom he knows is not conversant with veterinary history.

The New York State Veterinary College is welcome. It can compete with superior advantages with other veterinary institutions, but there is a fact, which must remain well established, that the private undertakings were the pioneers of veterinary education, that for some of them it is certain that veterinary history will register and recognize their deeds at their proper value, and will credit their work at a high estimation, a work which was carried out without expectation of fame, consideration of pecuniary return, and without the support of such a large institution as that to which the New York State Veterinary College is attached.

ATTENDANCE BY CONTRACT.—" *Whereas*, Rendering professional services at a stipulated fee per capita per annum is derogatory to the dignity of the medical profession, we, the undersigned . . . . ." This is the preamble of a resolution passed by one of the medical associations of California, which will no doubt be considered by similar organizations at an early date, and the question may wisely present itself: Will the day ever come when there will be among veterinarians sufficient respect for the value of their services and of their time to enter it among the codes of ethics of their various societies? We know that this is quite a serious question and one which will probably raise a general protest from our colleagues, as especially in these days where the struggle for life has assumed such proportions that the motto of *cut rates* seems to be the only one guiding many of our brother practitioners. The question of treating animals by contract is no doubt so well entered into veterinary practice that it seems hardly probable that it will ever be eradicated, and, yet, when one takes into consideration the numerous objections that pertain to the fulfilling of a contract, the annoyances to which the contracting parties are exposed, the unnecessary demands on one side, the possible tendency to neglect or to postpone answering a call, suspicious of being useless, etc.,—all these might be justifiable for any one to reject the plan of medical attendance at the rate of so much a year. We certainly know of some of our colleagues who have never made contracts, and who never regretted it. If the thing is ever to be considered, it must be through our societies, and first of all the National Association. The United States Veterinary Medical Association, might, we think, make it one of the first subjects to be discussed at the next meeting.

TO CORRESPONDENTS.—We beg to say to a large number of our correspondents and collaborators that many communications and papers are crowded out of this month's REVIEW on account of the heavy tax upon our pages; that their contributions are gratefully acknowledged and will be published as early as possible.

ORIGINAL ARTICLES.

THERAPEUTICS.

A CRITICISM ON THE ABUSE OR PROMISCUOUS USE OF PURGATIVES AND OTHER OLD AND ERRONEOUS LINES OF TREATMENT OF CERTAIN EQUINE DISEASES, TOGETHER WITH SUGGESTIONS FOR MORE MODERN AND CORRECT TREATMENT.

By E. L. Quitman, M.D.C., Chicago, Ills.

A Paper read before the Illinois State Veterinary Medical Association.

Therapeutics is that branch of medical science which considers the application of remedies as a means of cure.

It is not my intention to attempt to cover the whole field of therapeutics, which would be almost an impossibility for one man ; but it is my purpose, first, to criticise the methods pursued by so many veterinarians ; and, second, to bring to your notice my treatment for a few special and yet common diseases of the horse. Not that I have anything new and startling to offer, but simply to call to your mind the value of some of our old and well-tried drugs when used in proper combination and in proper instances, as well as to call from you criticism of the same and suggestions as to other forms of treatment for the ailments specified.

The lack of success of many veteriniarians in the treatment of disease lies in the fact that they follow day in and day out a single line of treatment, a single formula for each complaint ; aye ! even worse than that, a half dozen or a dozen formulæ for the treatment of all of the diseases to which animals are subject. A fever mixture, which must cure all febrile conditions, no matter what the cause of the exalted temperature nor the condition of pulse, etc. A colic mixture that must cure all kinds of colics. A liniment for all forms of lameness, and so on.

With a moment's thought you can call to mind veterinarians who have a formula for a *fever mixture*, which is prescribed in all febrile diseases, it matters not whether that ailment be simply an ephemeral fever, a case of pneumonia, pleurisy, bronchitis, lymphangitis, laminitis or perhaps cerebro-spinal meningitis; and, again, it matters not what stage the disease may be in when the doctor is called, *that* fever mixture must do. Why? Simply because the doctor does not know any better; and, alas, we have too many of him.

Another example. Frequently a young practitioner, one who maybe has been out of college perhaps five or six years, consults another and possibly an older veterinarian, regarding a certain case; the question is asked, What treatment have you been giving the animal? Too often he will answer, especially if both are graduates of the same college: Why, I am giving Dr. So-and-So's fever mixture, or using Dr. Somebodyelse's liniment; and the chances are that he will be surprised if you do not happen to remember those prescriptions; it does not occur to him that there are some men who think for themselves, who are not constantly using some one else's brains.

The most successful practitioner can only be so by thinking for himself, following no single line of treatment, and by studying and knowing the individual drugs, their characteristics, physiological action, therapeutical application, how and *why* they produce certain effects and their doses, as well as correct method and proper time of administration. Study these, and not "prescriptions"; know them, and when called to a case prescribe only the drugs that are indicated, and not limit yourself to a few general prescriptions. It is the application of the *right drug* at the *right time* and in the *right place* that will cure disease and bring you success.

I will give you another and more common illustration—"a shot that will hit more birds." How many veterinarians are there who would not think of starting the treatment of such diseases as laminitis, lymphangitis, tetanus, colics, skin diseases and other inflammatory diseases without the administration of a purgative. Have you stopped to think whether or not this is necessary or even once tried to treat any of the diseases mentioned without the use of purgatives? Take, for example, lymphangitis. I dare say ninety-nine out of a hundred start their treatment of that disease with a purgative, either aloetic or saline. Does it not take a certain number of days for recovery, say 4 to 6 or 8 days for the fever to abate and another week or ten days, and may be more, for the swelling to leave? It does; now, the diseases mentioned will get well just as quickly, if properly treated, without the use of purgatives, proving that their use is merely on a theoretical basis, and is still being followed out by thousands of veterinarians simply because some author said it was the proper thing, and you have not stopped to think.

Then, there is azoturia. Don't they die even when purgatives are administered, and get well just as often when they are omitted? They certainly do; then why this promiscuous use of purgatives?

Forty years ago we were in the "bleeding age," and now we're in the "physicking age."

Purgatives or laxatives are prescribed by all of us in some diseases (that do not need them), and by some of us in all diseases. I've seen them prescribed in sprains of joints, simple diseases of the eye, and other instances where they did and could not do any possible good. Why is this? Have you ever stopped to think whether their general use is necessary, or are you using them simply because Profs. Williams or Robertson advise it? Have you ever tried to treat the above mentioned diseases without the use of purgatives? If not, do so at your first opportunity, and I am sure you will be just as successful without them as with them, and in many instances more so, for I am sure many a horse would recover from colic where death ensues, as a result of the purgative, by virtue of its causing greater irritation of the bowels, bringing on enteritis. The motto, *viz medicatrix naturæ*, should be carried constantly in the mind of every veterinarian. The greatest abuse of drugs in veterinary practice lies in the too general and promiscuous use of purgatives; some administer them at the outset of every disease and ailment, inflammatory diseases—local and general; sprains, wounds, etc., not thinking that in many cases the purgative so weakens the animal as to greatly lessen the chances of recovery; the animal is weakened when his strength should be harbored. I will ask, of what use is a purgative in, say, broken knee or a case of conjunctivitis, and yet they are administered by many in those ailments. I am aware of the "lowering-blood-pressure-and-attracting-surplus-blood-to-the-bowels theory," but will not local astringents produce the same effect, *i. e.*, of lessening the amount of blood in a given part?

To return to lymphangitis, how often have you noticed that the purgative does not act in one case, and again acts too severely in another. It is characteristic of that disease that in one case an ounce of aloes will fail to act, while in another six drachms will act too severely, possibly producing superpurgation, and as a result of either extreme the case is usually aggravated. You are, no doubt, by this time, asking how I treat that disease. My treatment is as follows: If I am called to the horse before swelling takes place, which is rarely the case, I start the treatment with a strong sweat (you will say this acts the same as a purgative, but it does not, as it is a great deal more certain, and an animal recovers from the effects much quicker). I use the following mixture for that purpose:

℞ Ext. pilocarpi fl., ℥ ss- ℥ i.
Tinct. arnicæ rad., ℥ jss.
M. Sig.: Give at one dose in a pint of water, repeat in an hour if necessary.

Spiritus ætheris nitrosi or liq. ammonia acetatis may be added, but I find the mixture as above rarely fails. Have the animal covered with a woolen blanket. An hour after free diaphoresis is established I start in with the following mixture:

℞ Tr. acon. rad., ʒ ivss.
Ext. bellad. fl., ℥ jss.
Ext. colchici sem. fl., ℥ iij to ℥ ivss.
Spts. æth. nit., q. s. ad. ℥ xviii.
M. Sig.: One and one-half ounces every three hours in half pint of water.

This treatment frequently aborts the attack or results in very much lessening the severity of the disease. Where the disease is not aborted, or where I am not called before the swelling takes place, I continue the febrifuge treatment until temperature is normal, which usually occurs in from four to six days. During this time, my local treatment consists of hot bathing, and occasionally I use a lotion containing 4 to 6 ounces of tincture of chloride of iron to a pint of water, especially if there is a possibility of the disease having been of a traumatic origin. For diet, during the inflammatory stage, I allow only bran mash, hay and plenty of water, and, if in season, grass or carrots. Just as soon as temperature is normal I put the case under the following treatment to reduce the enlargement of the leg:

℞ Iodi. resub., ʒ iij.
Potas. iod., ℥ jss.
Aquæ, ℥ xij.

M. Sig.: One ounce three times daily in 5 or 6 ounces of water, half to one hour before feeds.

I now order gentle exercise and a little oats. Where the case has been extraordinarily severe and the swelling very hard and stubborn, I use the following locally:

℞ Ungt. hydrarg.
Ol. olivæ, āā ℥ iv.
M. Sig.: Apply with gentle friction once or twice daily.

With the foregoing treatment (occasionally deviated) I have yet to meet the first case which does not yield to it, the leg in every instance going down to its normal size, even where there have been repeated attacks. For those animals that are in poor condition, or where one has had repeated attacks, I prescribe Fowler's solution of arsenic in ℥ ss to ʒ vi doses three times daily, as a tonic, commencing just as soon as the swelling has disappeared, and continuing for three to four weeks, and have the horse laid up (gentle exercise permitted) for as long a time as owner will permit, insisting on at least two weeks after recovery, so as to prevent a return of the attack.

Now let us consider

Laminitis.—Even in this disease I do not administer a purgative, not that it exactly works an injury, but because it does not hasten the cure, and, again, in very severe cases, which are naturally very weakening, I consider that the horse will need all of his strength, and a purgative is certainly weakening. I treat these cases as follows: If called promptly, I produce free diaphoresis as described for lymphangitis; after that is established the following is prescribed:

℞ Tr. acon. rad., ʒ iv to v.
Ext. bellad. fl. ℥ j.

M. Sig.: One drachm every 2½ or 3 hours in water, continued for 24, 36, or 48 hours or until pulse is considerably depressed.

Then the following mixture is prescribed:

℞ Tr. acon. rad., ʒ iii to iv.
Ext. bellad. fl., ℥ jss.
Spts. æth. nit., ℥ viij.
Liq. ammon. acet., q. s. ad. ℥ xxxvj.

M. Sig: Three ounces every three hours in twice as much water.

After acute symptoms have subsided the horse is put on the iodine prescription, as mentioned under lymphangitis, to promote the absorption of any inflammatory exudate which may have taken place; also a blister is applied to the coronets, and long rest advised. During the acute stage I use locally heat and cold alternately, *i. e.*, cold soaking and hot poultices. I figure that this alternate contraction and relaxation of the blood vessels acts similarly to electricity in revivifying their vital power. And, again, where I differ in my treatment from a large number of veterinarians, I do not immediately have the shoes removed, but leave them on, except in certain cases (where they are new, or tight, or a country horse but recently in the city), then I remove them and replace loosely. I find that the animal suffers less pain with shoes on than when off. I consider that when the animal is barefoot, the wedging of the frog into the foot interrupts the circulation of the engorged vessels, and that the pressure of the sole onto the inflamed and congested villi (which are naturally involved) causes more pain and aggravation of the disease than the little expansion permitted by the removal of the shoes and frog pressure will do good. Try this plan of treatment, and I am sure you will agree with me. I frequently remove the shoes after the acute and painful symptoms have subsided, leaving them off for 24 or 48 hours, and then replacing them.

A few words about that ailment that frequently puzzles young practitioners and is often erroneously diagnosed by their older brothers; that condition which to ordinary observation closely resembles laminitis, except that the characteristic pulse is absent, and the feet not so hot. It often occurs after cold rains or snowstorms, or as a result of the horse being exposed to wind or drafts. The animal will have the characteristic stiffness, move with great difficulty, show pain and distress, and assume the positions usual in founder, etc. I term this condition *rheumatic founder*, or it may properly be termed "pseudo laminitis," so closely does it resemble regular laminitis. It yields, though, readily to the following treatment, often in 24 or 48 hours:

℞ Quin. sulph., ʒ j.
Pulv. colchici sem.,
Pulv. bellad. fol.,
Sodii salicylatis, āā ℥ iij.
M. Fiat charts. No. xii. Sig.: One powder every three hours in syrup.

Have animal warmly clothed.

Pneumonia.—How often these cases are lost, or a chronic cough remains, or the animal's wind injured, by improper treatment. The cause of this lies in the fact that too often the veterinarian forgets that this is a self-limiting disease. Of course, I am considering a case that is past the congestive stage. If you are called while there is only pulmonary congestion a powerful sweating mixture, with counter-irritation, followed by a suitable febrifuge, will frequently relieve the congestion, and thus abort the inflammation which would otherwise have followed. But after true inflammation sets in the disease cannot or should not be cut short. Too often in pneumonia powerful antipyretics are prescribed, resulting in cutting down the fever before nature is ready, or before the morbid products have been thrown out of the system; the inflammatory material is left to dry up, as it were, in the lungs, and causes a chronic cough or some of the conditions existing under the general term of "bad wind"; or perhaps the treatment has been very depressing, and the animal dies. The treatment of pneumonia should be of a stimulating character, one that does not too quickly cut down the fever, but rather one that simply limits the extent of the fever, stimulating every excretory channel to throw out effete material, and thus removing the cause of it. I follow out two plans in treating pneumonia—that is, I do not confine myself to them, but indicate the prescriptions as a type. Take the one example in those cases where there is a fair pulse, I may prescribe the following:

℞	Tr. acon. rad.,	ʒ iii (note the small dose).
	Ext. bellad. fl.,	℥ jss.
	Spts. camph.,	℥ iii or ivss.
	Spts. æth. nit.,	℥ vi.
	Liq. ammon. acet., q. s. ad.	℥ xxxvi.

M. Sig.: Three ounces every 3 hours in same amount of water.

As a counter-irritant I use the following:

℞	Ol. sinapis,	ʒ i.
	Aq. ammon. fort,	℥ i.
	Ol. gossyp. sem.,	℥ iv.

M. Sig.: For external use.

This is applied with just enough friction to cause irritation, and yet not blister. I order any diet that the animal may eat, making it as nutritious as possible. In extremely severe cases where the animals refuse all food, I drench them with milk, eggs and whiskey. A bucket of fresh water is kept constantly before the patient, and, of course, woolen clothing, with comfortable quarters, good ventilation, and an even temperature, is desirable. In winter it is best to keep the temperature at a point between 65 and 70° F., a stove being placed in or near the patient's quarters if necessary. Of course, this cannot be followed out in all cases. If there be a very weak pulse, I may add to the mixture, where a liquid mixture is desirable, such heart tonics or stimulants as fluid ext. of digitalis, in, say, half-drachm doses when given every three hours, or, as I prefer, tr. stiophanthus in two-drachm doses. I treat more cases with the following line of treatment than I do with the above:

℞	Quin. sulph.,	℥ i.
	Pulv. ammon. chloridi,	℥ iij.
	Pulv. ammon. carbonatis,	℥ ij.
	Pulv. camph.,	℥ i.
	Pulv. potassii nit.,	℥ iij.

M. Fiat charts. No. xii. Sig.: One powder every three hours (given in form of an electuary).

I often prescribe but one of the above ammonia salts, according to circumstances, *i. e.*, condition of pulse, liver or bowels.

Where resolution is tardy I apply a fresh application of the counter-irritant, and prescribe the iodide of ammonia in two-drachm doses every four hours, either in addition to the other treatment or alternated with stimulants and occasionally Fowler's solution three times daily. I invariably follow up every case of pulmonary disease with a tonic. If the case has been a mild one, I may prescribe simply Fowler's solution in ℥ss to ʒvi doses three times daily, according to size of horse, arsenic being a most valuable pulmonary tonic. If the case has been a severe one and great emaciation and weakness results, I give the following :

℞ Ac. arsen., ʒ ss.
Quin. sulph., ʒ iv.
Ferri sulph. ex.,
Pulv. nucis vom., āā ℥ jss.
Pulv. gentian. rad.,
Pulv. potas. nit., āā ℥ iij.

M. Fiat charts. No. xii. Sig. : One powder three times daily with syrup enough to form a paste.

Tetanus.—I will not attempt to criticise the treatment of this disease for the reason that it is so varied. I will say, however, that it is a mistake to pin your faith to simply antispasmodic and sedative treatment, as it is certainly a germ disease, and as such calls for antiseptic treatment. The difficulty has been to prescribe an antiseptic that will be carried in the blood as such. As to the value of the antitoxin treatment, I can say little, on account of the various reports being very contradictory regarding its value ; and as to the value of hyposulphite of soda, which has been lauded by a few, I have my doubts. As to antitoxin, the various reports do not show any greater results than from the usual old line treatment. For some time past I have had unusual success in this disease with the following treatment : First, as to the local treatment, I follow out the usual methods, *i. e.*, extirpation of the part in some instances and the use of antiseptics. In tetanus following nail wounds (or other wounds, for that matter) I do not believe in the use of poultices, even when containing antiseptics, as they always should when applied to a wound ; the poultice with its heat acts as a suitable pabulum for the growth of the germs. I apply the antiseptic, usually corrosive sublimate, either by direct injection or on absorbent cotton, or, in the case of nail wounds, I may have the wounded member soaked in an antiseptic solution. I do not in this disease administer a purgative, except possibly giving Glauber's or Epsom salts in the water or bran mash (not even these since using the following treatment):

℞ Ferri sulphatis exsic,
Cupri sulph., āā ℥ jss.
Pulv. bellad. fol.,
Pulv. gentian. rad., āā ℥ iij.

M. Fiat charts. No. xii. Sig.: One powder every four hours until there is some signs of abatement of the symptoms, then three times daily until almost well, and then continuing twice daily until complete recovery.

I have in several instances added quinine to the above. Strange to say, in all of the cases in which I used this mixture (six in number) there has been no bother from constipation, and, notwithstanding its astringent nature, the stools have been from a normal to a slightly soft condition, probably due to the belladonna, which is said to markedly increase the secretions after a brief suppression. The gentian is used more to cover the irritant action of the sulphate of copper than anything else; although its value in keeping up the patient's appetite is not to be overlooked. That there is value to this treatment, I have no doubt, for the reason that I have now had five cases out of six recover; I could not administer this remedy to the one that died on account of jaws being entirely locked and throat paralyzed. Three of the five recovered cases were severe cases, one, whose jaws remained open only about half an inch when I first saw him; then, again, the cases recover in about three weeks, where, under the old treatment, about six or eight weeks would have been necessary had they recovered under it. The animals recovered in good flesh, indeed, usually in better condition than they were before the attack.

Now, a few words regarding *Gastric and Intestinal Flatulence.*—In gastric flatulence I find that, while most veterinarians use hyposulphite of soda, they do not use it in large enough doses, usually prescribing it in 3, 4, or at the most 6 ounce doses. If this is the case with you, and you are not satisfied with its action, try it in 8 to 12 ounce doses (the granular salt being the best), and you may add creolin to the mixture in ʒ ij to ʒ iv doses. In intestinal flatulence the hyposulphite of soda is of no value whatever. Try some of the following antiferments: Salicylic acid, naphthalin, or creolin, a favorite mixture of mine in these cases being

℞ Tr. capsici.,
Spts. ammon. arom., āā ℥ jss.
Ac. salicylici,
Naphthalinum, āā ʒ iij.
M. Sig.: Give at one dose in a pint or pint and a half of water.

Of course, such drugs as turpentine, spts. camphor, oil of peppermint, sulphuric æther, etc., may be added. Anodynes in these cases are rarely needed, as the pain, or rather the distress, is caused by the distension of the bowels, and possibly interference with respiration; besides, anodynes are apt to produce paralysis of the bowels, especially where they have been distended for some time. Of course, I believe in the use of the trocar, and when the pulse is in fair condition and the intestines are not paralyzed, I may use eserine. As to the administration of an aloetic purge after cases of colic, I would admonish you to be careful. Where the colic was due to congestion of the bowels or where great irritation and prostration exist, a purgative may set up enteritis and make a bad ending to what might have been a success. Often aloes is administered when oil should be used, or perhaps when the bowels should have been left alone. In impaction of the bowels, it is well to ascertain whether that condition is due to lack of secretion or to paralysis of the intestines.

If to the former the regular purgative may be administered; if to the latter it will be useless and possibly dangerous, except oil is admissible; give something on the plan of the following: Fluid extract belladonna, fluid extract physostigmatis, and fluid extract nucis vomica, and I sometimes add fluid extract colchicum seminis. This is best administered in small, often-repeated doses. As to rectal injections, I prefer glycerine; inject about two ounces at a time, adding a little water, if necessary, to thin sufficiently for your syringe to take it up.

This plan of treatment will arouse the nervo-muscular apparatus of the bowels, which is at fault in this instance.

Regarding Liniments.—I would like to know why so many veterinarians think that a liniment is not complete unless it contains some irritants, such as turpentine, aq. ammonia, etc. Often where a straight anodyne liniment should be used, as in fresh sprains one is used containing some irritant, usually aq. ammonia (commonly tincture iodine), which by virtue of making the skin dry, harsh and tender, keeps up the lameness even after the effects of the original ailment have worn off. For an anodyne, and but slightly stimulating application, try the following:

℞ Tr. acon. rad., ℥ iv.
Ext. bellad. fl., ℥ iij.
Linim. saponis, ℥ iv.
Dist. ext. hamamel. q. s. ad. Oj.
M. Sig.: Apply three or four times daily.

Tincture of opium may be added, and water, or dilute alcohol used instead of the hamamelis. Should I wish it to have more stimulating properties than the above I prefer such drugs as tincture of myrrh or tincture of capsicum, say of each 3 or 4 ounces to the pint or pint and a half mixture. Regarding turpentine, you will find from 2 to 4 drachms to the pint to be enough for a local stimulant in a liniment; more than that irritates.

It is advisable to leave a leg open for a few minutes before bandaging over any liniment containing alcoholic or irritating substances. Where there is great heat and pain, I have found the following peculiar liniment to be very beneficial:

℞ Tr. acon. rad., ℥ iv.
Ext. bellad. fl., ℥ iij.
Pot. nit. pulv.,
Ammon. chloridi pulv. āā ℥ iij to iv.
Aquæ, Oj.
M. Sig.: Cooling liniment. Apply several times daily.

There are a number of other instances in the practice of veterinary medicine that are open to criticism, but think I have made mention of enough for one time. Hoping the foregoing will be profitable to some of my hearers (readers), or, at least, will open up a discussion that will lead to improvement, I will bring my article to a close.

VETERINARIANS AS SANITARIANS.

By Claude D. Morris, V. S., Pawling, N. Y.

A Paper read before the New York State Veterinary Medical Society at Buffalo, Sept. 5, 1896.

"Time and experience test the works of man; and the highway of progress is covered with the fragments of countless inventions. The creeds, the dogmas, the social relations of one age become the by-words or the antique curiosities of the next. Men do what they can, and coming generations pardon their errors, but judge their work as they ought. What is good lives, what is bad dies; this is the general rule." We are living in an age that demands of every man the best fruits of his mental and physical energies to meet the exigency of the times. The closing years of the nineteenth century is the ripening stage of the greatest minds that have ever lived. The abundant fruition of the strongest hand that holds the pen or the mechanic's tool. As the months roll by responsibilities multiply upon the shoulders of those who think and work the hardest in the ranks of the professional, architectural, and scientific classes. The struggle is to reach the high peak of human endeavor. Never before have such auspicious opportunities for usefulness and preferment among its members been laid upon the threshold of our profession as lies there to-day. The man of ability and thoughtfulness readily appreciates the situation, who with willing hands grasps the rough material fresh from the sources of inexhaustible supply in the professional field, to mould and to polish the roughened stone into a character of usefulness, beauty, and perpetuity. A profession, that within a short time has been looked upon with an air of disdain and ridicule by men in other professions, is now beginning to be recognized and accepted as a factor beneficent in the great problem of social economy. Thus it is, that which has been accepted in the past as the acme in the science has served its purpose well, but the onward tread of the wheels of progress refuse to accept as an integral the skill of the past, but on the other hand is demanding at the hands of the learned the last deductions of the best products of their work. Civilization is gaining friends hourly and enlarging its borders daily. It is utilizing forces that hitherto were latent, that which in the past was refused, is now material of usefulness and adornment. As individual members of the veterinary profession we find ourselves to-day in the midst of momentous duties. Responsibilities which are not altogether new, but are forced to the front demanding a solution as one of the problems incident in our commonwealth. The question of sanitary science, and its practical application by the profession, is confronting us with irresistible force. In no small degree is the health and wealth of the Empire State dependent upon our ability and energy. Are we equal to the emergency? The results of our professional career can best answer the question. The consumer of animal flesh, and of dairy products, is largely at the mercy of the tradesman, with the exception of a few firms, whose sense of honor and justice in their business relations with the public is based on the broad principle of dealing with others as they should like to be dealt with. It is to this class of business men, and to veterinarians, that the millions in our State, who daily consume flesh and dairy products, can only depend upon as the proper persons to protect their table from unwholesome foods. The competition in the manufacture and sale of food products is exceedingly spirited these days. This rivalry does not always tend to increase the merit of the article. The spread of disease among animals themselves, the many avenues by which disease is transmitted from the lower animals to mankind, and its eradication, are questions, all of which require a solution at our hands.

There is no one article of food so universal in use as that of milk. Its composition possesses all the elements necessary for primary growth; it is the initial and only food for the newly born, and continues as such for months. One of its physical characters, is its susception of untoward influences. It will receive and convey the odor of its surroundings. The unpleasant flavor of certain vegetables, sour or fermentative foods which the cow may eat, are readily detected in the milk; and of all food that reaches our table, none possesses a more genial habitation for nearly all forms of bacteria as milk. Not a year passes but that we have living proof of the communicability of disease from various sources through the medium of milk. Diseases that are not wholly infantile but attack man at all ages. Not only has it been proven that certain diseases incident to the bovine family have been carried through milk to man, but that diseases wholly allied to man have been transmitted through milk. Thus this medium is open to a double source of infectiousness; of the two sources of infection we find that in man lies the greater evil of the two. Aside from bovine phthisis, there are but few diseases of frequency in that family considered dangerous and liable to transmission through the products of the dairy, but in man we have a number of infectious diseases, which can be transmitted through this medium. Whether tuberculosis in man has its essential source in the bovine family or not, there are, however, certain conditions of the disease in the animal which seem even on the surface to be inimical to health, and when considered upon the ground of its possible relation and potency towards creating the disease in man, there is at once of itself a wall of defense very difficult to destroy. The Massachusetts Society for Promoting Agriculture, after making 121 microscopical examinations of milk taken from 36 cows, on 19 different occasions, found that the tubercle bacilli actually existed in the milk of 33 per cent. of the animals examined; and that the animals were actually affected with tuberculosis; that the udder was free from the disease, which was proven in all cases by careful post-mortem examinations. The animals selected for this test were known to have the disease. The object of the test being to prove whether or not the bacilli actually existed in milk taken from animals which had the disease in parts other than the udder. On the other hand, as we have intimated that by man, milk is environed with conditions which lay it open to serious and fatal consequences ere it reaches the consumer's table. The wonder is, it is not more so. A daily food so well calculated by constituents to be a suitable abiding place for germ life, which develops and multiplies indefinitely, requires more than ordinary attention while in the hands of the producer and tradesman. A glance at the records, the frequent press accounts of the spread of infectious disease, proves beyond contradiction the value of the assertion. There are many cases on record, of which there is undeniable proof, of the spread of typhoid fever, diphtheria and many forms of enteric disease, through this medium alone. We beg to cite one prominent case which had more than local interest excited, occurring in the village of Stamford, Conn., a year ago last April. Typhoid fever began to appear during the early part of the month; no special significance was attached to its invasion, as at that time but a few cases had developed, but before the month was gone, 209 cases had been reported to the Health Officers. In the meantime, diligent search was on foot to find by what means or avenue this intruding enemy was seeking the life and happiness of the community; and before the fell destroyer had been found and from whence it came, it had as its claim 386 victims and 22 deaths. A short paragraph clipped from an article on the subject published in a New York paper at the time will explain. It says: "Every one of the cases has been traced directly to a foul well in the stabling shed of H. R. Blackham, a retail milk dealer on Greenwich Avenue, in that part of the city known as Waterside. A map was drawn, showing the location of the typhoid cases and Blackham's delivery route. The Stamford doctors have not driven off the milkman's route in their visits. Every house with typhoid patients was a stopping place for the milkman's horse. Dr. T. Mitchell Prudden analyzed the water from Blackham's well (which was located in the barnyard), and says: 'The number of living bacteria of various kinds in one cubic centimetre is 69,660. This number of living germs would be reasonable in sewer water or a cesspool.'"

The dairy industry is a very common one in our country; and especially is this true in the vicinity of our large cities. New York City receives its supply of milk along the line of railroads for 100 miles north, 250 miles west, and nearly 50 miles south, to say nothing of the smaller cities and villages within this radius which receive their supply also. Of this large territory in the eastern and south-eastern portion of the State, nearly all of which is devoted to dairying, but a small portion is under sanitary inspection. In this field, I believe we can do a great work for humanity. Impress upon the dairymen the criminality of selling milk from cows which are suffering with disease, and that the act is none the less criminal by selling the animal itself, whose flesh ultimately reaches the table of some innocent consumer. A few sanitary principles should be in vogue at the dairy; thorough cleanliness, light and ventilation of stables, pure water supply and wholesome foods are the essentials which should enter into the management of the dairy. We should be in touch with the health officers in our immediate locality, working together in one common cause to maintain the health of the community. This applies more especially to children and the young, whose sensitive tissues and bodies of susceptibility, if they reach normal maturity, depend wholly upon the character of the food they receive. How often it is the case, the family physician can trace the enteric trouble in the babe to the milk can; and not infrequently do we hear of a case of tubercular meningitis in the child of a family whose record is as free from the disease as if the disease never existed upon investigation traced its source to the family cow, or the dairy from whence they had long purchased their supply. It is along this line of professional work that the veterinarian can make for himself a reputation worthy of his calling.

My fellow-practitioner, has it ever occurred to you, when making professional visits among your clients, to make a thorough investigation in search for the cause of the disease which is then under treatment, with the same unremitting vigilance with which you treat it; and how multiplied are the instances, at the conclusion, that the unsanitary surroundings are sufficient cause for the malady. In no other way can we manifest greater professional skill than in being able to remove the cause of disease, rather than treating it successfully, and especially will this prove true at the dairy farm, whose product is placed on the market for exchange.

Harold Ernst, on the subject of infectiousness of milk, arrives at these conclusions: 1st. While the transmission of tuberculosis by milk is probably not the most important means by which the disease is propagated, it is something to be guarded against most carefully. 2d. The possibility of milk from tuberculous udders containing the infectious element is undeniable. 3d. With the evidence here presented, it is equally undeniable that milk from diseased cows with no appreciable lesion of the udder may, and not unfrequently does, contain the bacillus of the disease. Mr. President, are we imposing too much on your patience, and this assembly, by stating that it is our belief, that we as veterinarians and sanitarians fall short in our professional duties unless we use all reasonable means to impress upon dairymen who place their product upon the market, the necessity of as perfect sanitary conditions as is possible to maintain; and especially whenever it comes to our notice that milk is offered for sale from cows in an unhealthy condition of body, to use our best endeavor to have them removed from the herd, or report the case to the health officer. Neither should milk be sold from dairies in which certain diseases incident to the human family are prevalent, and associated with the dairy. Diseases which should bar the dairy product from sale are typhoid fever, diphtheria, pulmonary phthisis, croup, scarlet fever, common measles, German measles, small pox, erysipelas and syphilis. There is room for much reform in the dairy sections of our State; and who among the scientists is better qualified to perform so important a public function than the veterinarian. I will not go into the details of the dairy, which are many and complex, aside from what has already been said as to cleanliness, the method to be pursued and the material used is quite essential.

A thorough sweeping down of the walls and ceilings of the stables twice a year, spring and fall, then applying a rich coat of whitewash and carbolic, which is both a disinfectant and parasiticide, the maintaining of water-tight floors and gutters, so that all the excreta can be removed without finding lodgment beneath the floors; with good drainage in the yards; also no wells in the vicinity of the yards; and during the months in which the cows are stabled, they should be groomed daily, for the purpose of removing particles of stable dirt and their own excrement, which is very liable to find its way into the milk pail, thus becoming a source of contamination. It may seem needless to state that as soon as the milk is drawn from the cows it should be cooled to a temperature of at least 60° F. and kept in an atmosphere free from all odors or contaminating influences of whatever nature, until it is ready to be taken to market. We believe, that as the result of carelessness and ignorance on the part of some dairymen, premature graves have been dug for children; that the bright hope of their maturity, which was twin in the breast of the parent at their birth, has been broken and ran away in bitter tears. If the wealth of a nation lies in the character of the extent of area, in its hidden resource of priceless material, and its commerce, then its greatness lies in the character of its human flesh. A strong arm and a sane brain are necessary to lay the foundations of true greatness, and it is in the newly born babe where these conditions begin. The question of a final disposition of neat cattle when suffering with disease of a contagious and infectious nature among animals themselves, and capable of transmission to man, becomes a matter of vital importance in its relation to public health. The profession should be a unit on this question as best calculated by experience and knowledge to direct the public mind in this very important question, affecting as it does the health and wealth of the nation. What should be done with an actinomycotic animal? Learned men in the profession differ as to the contagious character of the disease, except among bovine animals; and I believe this is disputed by some; the origin of the fungus, f of vegetation, and what relation does it bear to the animal; if by contact through abrasion of the skin or by alimentation, then why may not man contract the disease from the same source independent of the animal? However diversified opinion may regard this disease, is it not well to give the doubt the preference? We would not be understood as sentimental, but we believe there are occasions when intuitive knowledge or science, or more plainly put, instinct, is to be relied upon, when doubt and ignorance abound. What man possessing a cultured sensibility, to say nothing of professional knowledge in the medical science, can make himself believe that the flesh of a diseased carcass, though it be only localized, receiving its supply of blood from the systemic circulation; giving off its effete materials in the form of a ptomaine, to be partially eliminated through the process of arterialization in the lungs; and then again the remaining fragments re-sent to all parts of the body; availing itself of every opportunity for lodgment in the tissues, though attenuated in vital form, must in time make general the same disease, that to outward appearance seems only local. The question of economy should be subordinate to that of health; therefore, we cannot admit that even thorough cooking is a sufficient guarantee to properly sterilize the meat. It has been shown by recent investigation, that in many diseases it is not the characteristic bacilli of the disease which produces the toxic infection, manifesting the symptoms of the disease, but that it is a sub-product; the result of the dead bodies of bacteria, a ptomaine, a soluble alkaloid, readily absorbed, capable of producing septic intoxication. "Nearly all authorities are agreed that the bacilli present in the blood of tetanic patients are few, and in animals in which the disease was produced artificially the blood was often found sterile, the microbes being found at the seat of primary infection, and in the tissues between it and the spinal cord, than in the blood itself." We must then conclude that the laboratory, from whence the ptomaines come, are the tissues in which localization takes place; and it differs not, whether the disease is local or general, if of importance and contagious in its nature, the blood and the tissues possess "the septic intoxication which is carried by the presence of dead tissue in the body in a state of putrefaction, from the presence of putrefactive bacilli, and that the immediate cause of the intoxication is the absorption of pre-formed ptomaines from such a local focus of putrefaction." Are we justified in the light of present knowledge, touching so important a question, to assent by silence to the sale of a food product contrary to revealed knowledge? Or if, on the other hand, our busy life hinders personal investigation, that we may know from experience these facts, are we to doubt the result of investigation made by others who have investigated? When human life and happiness hinge on any one question, too much is at stake to admit of theory, long-drawn out deductions, and hair-splitting conclusions to prove that under such and such conditions certain agencies and elements are harmless. No, better things are expected of us. We are in a position to lead and become the sanitarians of our time. The transmission of disease by clinics, manifesting itself in typical form in other patients remote from the seat of infection, which, at the time being, are suffering slightly from some form of enzootic disease, or are to undergo some ordinary operation, is of sufficient importance to engage attention in our daily practice. Its influence relative to the commercial value of the lower animals is too significant to admit of casual treatment, the operator acting as the medium by which the infection is conveyed. I will cite two cases, one in which the present speaker was the medium of transmission in one case, and the other a regular practicing physician.

In the spring of 1891 we were treating a case of tetanus in a filly two years old. She and an own brother, one year older, were running together in an open shed. They were separated by putting a partition through the inclosure. After the filly recovered the owner wanted the horse colt castrated; this was done by the usual method of casting the animal. removing the testicles, with no bad results following. One week later we were called upon to castrate another colt five miles distant from the farm where tetanus had existed, using the same casting rig. In this case I ligatured the spermatic artery with sterilized catgut, the colt, apparently, doing well until about one week later, the owner reported that something was wrong with the colt, and wished I would go out and examine him. As soon as I saw the colt, the symptoms presented were an open book portraying the trouble,—it was tetanus in all its agony. Without going into the details, which I afterwards did to prove from whence came the germs of the disease, we will conclude the clinic by stating the fact, that the bacilli of tetanus was on the ropes and straps of the throwing rig, and was thus conveyed to the wound of the scrotum. After relating this incident to a physician of large experience, he unbosomed a like circumstance in his own practice. He was treating a case of peritonitis which was the result of a wound in the lower third of the abdomen, the wound presenting septic symptoms. One day after dressing the wound he was called to a case of midwifery, in a woman enjoying ideal health; delivery occasioned slight lacerations, labor lasting only three hours. The third day he noticed evidences of inflammation in the parts, extending to the mucous membrane of the vagina. Again, without going into details, which he related, the Doctor was satisfied that by his hand he had transmitted the germ of sepsis to a healthy person. Surgical sanitation means more than ordinary cleanliness. It means perfect sterilization of hands and instruments. In a diversified practice, this danger is more imminent, as it brings in contact with the medium a greater number of avenues through which to spread infection. A few months ago we were called to see a case, that upon examination proved to be glanders, which was under treatment by an empiric, who did not recognize the disease; he also had under treatment at the same place the favorite cat, suffering with a lacerated wound on the arm; strange to say, that in nine days this cat had developed the disease sufficient to make diagnosis easy. Herein lies the danger; and how often it comes to the surface in practice; the patient apparently doing well, soon we observe complications, which are hard to account for; they are absent in the literature on the disease; if then, these symptoms are not the natural sequel, what are they? Experience tends to confirm the belief: that too often we are the medium conveying the germs of disease.

The need in the profession to-day is a closer application to sanitary principles governing the treatment of diseases, as well as the prevention of disease. Preventing disease based upon its pathology. The influences of inheritance. The transmission of functional peculiarity associated with this inheritance of soil and the transmission from parent to offspring of certain conditions, apparently pertaining to the tissues and predisposing to disease, is a question for concern as vital as the treatment of disease when precipitated. We can no longer cast aside the necessity of the hour. We are in the field of activity, we must perform. It becomes us therefore to do our part well, take on the harness of rich opportunity, toil for the benefit of our race, and at the end of labor reap reward.

INFECTIOUS OPHTHALMIA OF CATTLE.

By W. F. Weese, V.S., Ottawa, Ill:

A Paper read before the Illinois State Vet. Medical Association.

The geographical distribution of this affection, which I have taken the liberty of calling " Infectious Ophthalmia," is difficult to determine owing to the absence of literature on the subject and published observations by practitioners. That it prevails in the Western and Southwestern States is evidenced by shipments of cattle to this locality, "feeders" frequently being affected on arrival or manifesting the disease a few days subsequently. The assertion that our native cattle only become affected through shipments of cattle from the West is not borne out by observations, the writer having seen the disease develop among dairy herds under circumstances not warranting that conclusion.

It prevails for the most part during the months of July and August, cool weather and frosts causing an abatement of its infectiousness and a suspension of the active pathological changes in those cattle already suffering from the malady. The etiological factor in its production exerts itself in different degrees of severity, not only in one herd, but in different outbreaks, and its infectiousness differs in transmissibility as much as the pathological alternations.

The causation of the disease, according to our present views of purulent inflammations, must be attributed to the presence of schizomycetes. The micro-organism responsible for this particular disease has not been definitely determined, nor systematically studied, so far as the author is aware. Leber, Berliner, Erberth, and others have experimented with fungi on the cornea. By inoculations upon the cornea they have produced purulent inflammations which spread rapidly, involved the substance of the cornea and resulted in purulent iritis, which conditions have been attributed to migration of the fungi to deep portions of the eye. These conditions are approximately attained in the natural course of the disease under consideration, although experimentally the diseased conditions are only produced by direct inoculations. Corneal ulcer antedates abscess of anterior chamber, which would lead one to infer that the infection came from without. The infiltrated superficial lamellæ of the cornea soon break down, the focus of suppuration lies bare and this presents favorable conditions for migration of germs to the internal structures of the eye. The writer believes that flies are the medium through which many infections are consummated.

The disease rarely assumes an epidemic character, spreading at most to adjacent farms between which there is usually found to be more or less direct communication of attendants, by means of whom the contagion can doubtless be carried.

In large herds, where the animals are not housed, it is rare to have over fifty per cent. become affected, without antiseptic precautions or treatment. Under more restrictive methods of keeping cattle the percentage will be materially increased. Many cases will make a spontaneous recovery in two or three weeks, a variable number will lose one or both eyes, the latter termination requiring two or three months for its consummation and subsidence of inflammation.

Clinically, the contamination of healthy cattle in an infected herd may be obviated by rigid precautionary measures, of which isolation of affected cattle may be cited as the fundamental rule of action and the unaffected animals treated by free applications of a bichloride solution to the region of the eyes, supplemented by smearing the lids with an ointment which will be effectual in keeping flies away.

The first observable symptoms are swollen lids, intense lachrymation, photophobia with its consequent spasm of the orbicularis, congestion, pain and opacity of the cornea, to be followed by a staphylomatous bulging of the cornea due to intra-ocular pressure. In one or more days the discharge becomes muco-purulent, and if the disease is not arrested at this stage the inflammation rapidly involves the substance of the cornea and deeper structures of the eye. Inflammation of the cornea is usually diffuse and affects the proper corneal tissue, although it may be limited to the epithelium on external surface. Keratitis is almost an invariable sequence in advanced cases. The cornea presents an opalescent appearance, and the formation of an ulcer is preceded by a stage of infiltration and the inflamed spot is a little raised and more densely opaque. The ulcerative process often spreads widely, eats deeply, becomes complicated with corneal abscess or abscess of anterior chamber (hypopyon), iritis, choroiditis and synechia. Perforation of the cornea is not an infrequent termination, especially in those cases which have not received remedial interference while the disease is in its incipient stage. The alternations resulting from iritis cannot be observed till after the cornea has sufficiently cleared to permit inspection. The danger of adhesion of the iris to capsule of lens should be anticipated, however, and if possible such a termination frustrated. Formative opacities of the lens seem to be a rare termination of the diseased processes. Limited to the subjective symptoms usually, in the absence of focal illumination and the ophthalmoscope, we are led to believe that such conditions are sometimes left behind, which only produce visual aberration and hence are of no particular consequence practically. Cataract, however, is sometimes complete or progressive.

Treatment.—It is much easier to prescribe treatment for a wild western steer, irritated by a degree of blindness, than it is to execute the details of application. One of the first requisites of treatment is to protect affected animals from direct light as much as possible. The early stage of the disease is best treated by either cold or hot applications followed by injections of astringent antiseptics, a very effective application being a solution of sulphate of zinc combined with hydrastis. If the muco-purulent discharge is present and profuse, painting the conjunctival surface of the lids with a solution of nitrate of silver—five grains to the ounce of distilled water—will be found serviceable. It is well to use a solution of atropine by routine until the disease has reached its height, on the presumption that iritis may be present, and its diagnosis hampered by the opacity of the cornea.

Atropine relieves pain, lessens the tendency to iritis and mitigates ciliary congestion, but we do not think it should be used too persistently, especially when there is pus located in the anterior chamber, for the reason that it narrows the area and contracts the vessels of the iris and thus retards rather than hastens the absorption of pus. Eserine should be substituted where ulcers are present and complicated with hypopyon. Eserine enlarges the surface of the iris and dilates the ciliary arteries and thus favors absorption of any deleterious exudate or pus in the anterior chamber. Persisted in, however, it will cause a congestion of the ciliary zone and increase the irritability of the eye. These symptoms usually coincide with the cessation of corneal infiltration and the commencement of vascularization of the ulcer or the formation of the vessels of repair. When this stage is reached eserine should be discontinued. Calomel sifted into the eye after the subsidence of active inflammation is beneficial in clearing up any opacity of the cornea. The sheet anchor in the treatment of keratitis is the yellow oxide of mercury ointment, five grains of medicament to the ounce of vaseline. A piece as large as a pea placed beneath the lids once daily and the eye held shut until it is well spread by the membrana nictitans is the usual treatment.

Surgical interference is not to be resorted to outside of curetting ragged ulcers unless there is imminent danger of a rupture of the cornea from intra-ocular pressure due to hypopyon and a weakening ulcer. When such an operation is decided upon, it is best performed by passing a small knife through the cornea and cutting across the ulcer, making a good sized incision. The pus in the anterior chamber is not usually fluid, but can be withdrawn from the eye in the form of a yellow, viscid mass. Care should be exercised that no inclusion of the iris in the wound is permitted. In the event that trouble is experienced from that source, clipping away a portion of the iris with the scissors may be resorted to; the eye thoroughly cleansed, dusted with iodoform and closed by compress of absorbent cotton, supported by strips of cloth and bandages, which can be better held in place by using Burgundy pitch plaster.

The dressings should be removed and re-applied as often as deemed expedient. All procedures in the treatment should be attended with all available antiseptic precautions, the details of which require no explanation in this paper.

REPORTS OF CASES.

CEREBRO-SPINAL MENINGITIS.

By SAML. S. BUCKLEY, D.V.S., Maryland Agricultural College, College Park, Md.

During the latter part of August I received a telegram from President ———, of this place, asking me to report immediately. I reached here at night, and was told that a gentleman living across the country had a couple of sick horses and would send for me the next day. I read the following note from the owner: "I have lost within the last twenty-four hours three valuable young horses, which I have every reason to believe have been poisoned. I send part of the intestines for analysis. Please have it attended to and I will be over on Monday to explain more fully."

Although this gentleman had been over during the day before I had reached here, I was able to learn but little more than his note explained. The next morning I saw our chemist (also an M.D.) and found that he had made tests for those poisons that were likely to have been used, but that the results had been negative. He had not seen the owner of the stock, and therefore knew nothing of the history.

Early in the afternoon the coachman came for me, and we started on a sixteen-mile drive. I mention this merely to show that I had plenty of time to get at some of the history. The negro, however, was very uncertain about many points, and I was not much better informed when I reached there than before starting.

I got a brief history from the owner while walking towards the stables, and began to suspect that there was more indication of cerebro-spinal meningitis than of poisoning. He stated that on the Thursday before he was watching his three-year-old colts in the pasture, when he noticed one apparently stagger and fall, and in a very short time died. He and a couple of his tenants were talking over the affair and trying to account for the suddenness of it, when another died, almost without showing any signs of sickness. The next day a third died, and poisoning was suspected. The intestines of this one were sent to the college for analysis, together with the above note. This animal showed symptoms like one I shall describe later. On Saturday a mare that was suckling a colt was noticed to be drooping, and did not eat nor drink anything. She was not noticed to have made any manure during the day. The next day she died. On Monday a second mare, also suckling, was affected, and was the same one I saw on reaching there Tuesday evening. A third mare that had been but little used, and therefore on pasture most of the time, showed evidence of being ill at this time.

As mare No. 2 was beyond recovery, I gave my attention to No. 3. I attempted to give a ball, and found the pharynx filled with a wad of grass. After removing this I gave the medicine in solution. This was very hard to do, as the animal seemed to have great difficulty in swallowing. Acting upon the success of Mr. Lockhart, of New York, with strychnine, as described in Finlay Dun, I gave this hypodermically. I then left her to more carefully examine No. 2. She was ten hours before, so I was told, not only in good condition, but quite fat. At that time, however, she was very thin and emaciated. Her temperature was 105°. Her pulse at one time would be scarcely perceptible and a few moments later would be much stronger and very rapid. I would have destroyed her at once, but I wished to watch the case and the effects of aconite, which I gave in view of the symptoms presented. As it was then rather late in the night, I left her, and was very much surprised the next morning to find her still alive. The owner being willing, I destroyed her at once, and held a post-mortem.

When ready to destroy her, I was for a time puzzled as to the manner in which I had better do it, as I did not wish to injure the brain, and I was afraid that I might lose the congestion if I bled her. However, I opened the carotid and jugular, and ran this risk. I observed that the blood was somewhat darker than normal. The pharynx was filled with a wad of fodder precisely like No. 3. The œsophagus was normal, the stomach and small intestines were empty and whitish in appearance; the large intestines were normal and contained hardened fæces. The bladder was full, but I failed to save the urine. The other organs were normal in appearance. I then exposed the brain and a little of the spinal cord. The vessels of the meninges of the brain and a little of the cord were engorged with blood. Naturally that on the lower side was more pronounced, owing to the position of the animal. After nearly three months preservation in alcohol this engorged condition is very marked.

After holding the post-mortem, the owner of the place and myself went over the farm to try to locate the cause of the trouble. The farm contains something over 1600 acres, and his pasture lots, as he called them, were good sized farms in themselves. That particular lot, where his horses had last been, I found high and sloping, with a southeast exposure. Comparatively little of this was marshy, but this marsh contained the spring and quite a little grass. As this place was cool, I concluded that the animals spent most of their time there. Since that time, the gentleman has written me, he thinks they drank at a place where there were about 40 hogs, that they kept the water in a filthy condition and thus contracted the disease. As evidence, he says "all his carriage horses and those work horses that were watered at the well, did not contract the disease."

The general symptoms, taking those two seen by me as typical of all, were as follows: The animals at first appeared droopy, and rapidly got weak. They were apparently unable to swallow food or water. The weakness increased and seemed to affect more especially the hind quarters. Constipation was marked. Finally the animals dropped, and I noticed a very peculiar condition; they all left traces of having indulged to a greater or less extent; while lying they continued to move both front and hind legs as if in the act of progression, and in so doing scooped out earth to the depth of ten or twelve inches. In the mare I destroyed, this had been kept up for about fourteen hours. There was apparently complete loss of consciousness. The action of the heart varied. The temperature was high.

In regard to the treatment, will say that I gave the aconite because I thought the symptoms justified it, not that I had ever seen it recommended for this trouble. Mare No. 3 received the strychnine and solution of aloes; however, on the following day she died.

My recommendations were to make a complete change in the diet; to thoroughly clean the stables, and to keep the stock from this pasture.

Since that time he has had no trouble with the rest of his stock. These have been my first cases with that trouble since graduation; though three years ago, when on the eastern shore of this State, I saw some cases almost identical. At that time there were said to have been about fifty horses that died of this trouble within a radius of ten miles from where I was stopping. This locality, lying between the Chesapeake and Delaware bays, seems to have periodic outbreaks.

LEUCOCYTHÆMIA IN A COW.

By Prof. S. STEWART, Kansas City, Kan.

Thinking possibly the readers of the REVIEW would be interested in a brief account of what seems to me an unusual case, I send you the following notes.

A cow was slaughtered for beef at a local abattoir. Post-mortem examination revealed general emaciation, with all the structures and viscera presenting the usual appearance of emaciated animals with the exception of the lymphatic glands and the spleen. The lymphatic glands in all parts of the body were greatly enlarged, varying in size from a walnut to a goose egg, and seemed upon section to consist of hypertrophied glandular tissue. The spleen, which ordinarily would have weighed about one and one-half pounds, weighed nineteen and one-half pounds and measured thirty-one inches in length, nine inches in breadth, and three inches in the thickest portion. Upon section the malpighian corpuscles presented themselves as nearly white bodies, many of them one-third to one-half inch in diameter, the remainder of the spleenic pulp being normal in color and consistence. This condition was found in the anterior half of the organ; the posterior half showed evidence of inflammation and disintegration. The peritoneal covering of the latter half was covered with an exudate and somewhat adherent to all adjacent structures. The glandular pulp was a light red color and the malpighian corpuscles were scarcely visible. As a microscopic examination of the blood was not made, a complete diagnosis could not be made, but from the lesions above noted this was probably a case of leucocythæmia.

This is the first case of this disease in cattle which it has been my opportunity to see. Some months ago like pathological lesions were found in a St. Bernard dog belonging to a resident of this city. Perhaps this disease is more prevalent among our domestic animals than we are wont to think, and I trust such cases coming under the observation of the readers of the REVIEW will be reported through its columns.

TWO CASES OF VOMITION WITH DIFFERENT RESULTS.

By DR. J. P. LAWS, Madison, Wis.

On the night of October 22, 1896, I was called to a horse belonging to the American Express Company that was suffering with flatulence. The man that had charge informed me that he had given a capsule containing muriate of ammonia and chloral hydrate. I gave four ounces of sulphate of sodium, dissolved in water, with one ounce of alcohol; also injections per rectum; repeated soda and alcohol every thirty minutes for three doses. Horse continued to get worse, so that it was necessary to use trocar and canula. This gave very little relief. Soon after this the horse began vomiting water and a very little feed. After this was comparatively easy. Told man in charge that stomach was partially ruptured, and that it was only a matter of time until death would be the result. So left stimulants and went home. On calling next morning was surprised to find the horse alive and seemingly a little better, but on examination found pulse very soft and weak. Temperature normal, and power of deglutition lost. (But was not caused by medicine burning throat and œsophagus.) This condition remained unchanged until the third day, when he began to pass fæces; could swallow a little water and feed. From this time on could see no change, until death occurred on the morning of Oct. 29. Unfortunately could not hold post-mortem.

In July, 1896, a bay horse suffering with flatulence of the stomach was brought to my hospital. I gave it soda sulph., dissolved in warm water, with one ounce of sulphuric ether added; repeated dose in thirty minutes, as horse was showing more pain. In about twenty minutes after giving the second dose horse lowered his head and began vomiting. There was about one quart of undigested food expelled and a great amount of gas. In a few minutes horse was perfectly easy and wanting to feed, and was ready for work next morning.

SARCOMA OF THE NASAL AND MAXILLARY SINUSES.

By MR. C. TIETJENS, Student at American Veterinary College.

The patient was a grey gelding, 13 years old, and used for heavy work. Brought to the College Hospital clinic Wednesday, Oct. 28, with the following history: About six weeks previous the animal had been doing poorly, and a veterinarian had been called to examine him, when a diagnosis was made of pharyngo-laryngitis. At that time there was a profuse discharge from the nostrils, animal had great difficulty in swallowing, food and water returned through his nose and other symptoms leading to this diagnosis. About two weeks later, animal showing no improvement, paralysis of the throat was suspected and animal treated accordingly. At this time a small enlargement made its appearance on the left side of the face, even with the second and third molars. The patient, during all this time, showed no loss of appetite, but gradually became more emaciated.

When brought to the clinic animal presented the following conditions: The enlargement on the side of the face was about the size of an orange, measuring about three inches in diameter. Discharge from nose was very profuse, of fœtid odor and greater from left nostril. The muscles of the throat were atrophied. The appetite was good, but deglutition was accomplished with difficulty, most of the liquids returning through the nose, all these symptoms leading to the former diagnosis of paralysis of the throat.

On opening the buccal cavity the hard palate presented a granulated surface. The last three or four upper molars on the left side were loose in their alveoli, there was a caries of the third molar, and the soft palate and fauces were found to be in a flaccid, relaxed condition.

A diagnosis was made of neoplastic growths of the sinuses and destruction of animal was advised.

On post-mortem the following lesions were found: The molars on the upper left side were abnormal, there being seven instead of six, there was a slight caries of the fourth molar, the fifth and sixth were ulcerated at their roots, the seventh was very loosely implanted in an oblique direction forwards and downwards, and was in a healthy state. The mucous membrane of hard palate was destroyed from the second molar backwards, on the entire left side from the median line. The surface was raw, infiltrated with neoplastic growths and exhibited large granulations, these extending to and involving the cavity of the pharynx. They also perforated the soft palate, entirely or partially destroying it and interfered with its functions. The mucous membrane of the pharynx was slightly injected. On opening the sinuses those of the left side were found to be entirely obliterated by cancerous growths, specimens of which proved it to be of sarcomatous variety.

Conclusion : While the symptoms exhibited by the patient at the beginning of his illness would have justified the diagnosis of pharyngeal disturbances, it is pretty evident that they were but secondary in their effect, and that they were due to the condition of the soft palate, perforated through as it was by the development of the sarcomatous tumors. Of course the condition of the teeth and hard palate were also due to the same development, which was overlooked.

MALLEIN IN SUSPICIOUS FARCY.

By G. B. BLACKMAN, Student at American Veterinary College.

Through the kindness of Dr. Drake, the students of the A. V. C. were permitted to see and watch an aged grey gelding, in apparent good condition, which was suspected of farcy.

The Doctor was called a few days previous to see him. He found a small swelling of doubtful appearance in the intermaxillary space and administered to the horse a purgative, which operated freely, and the gland suppurated freely.

Entering the hospital Nov. 18, the animal had no discharge, no ulceration on the septum, a small tumor on the right side of the face, which when punctured allowed the escape of a thin yellowish pus ; there was also one in the intermaxillary space discharging somewhat, and two others, one on the left side of the thorax, the other on the right shoulder. These were not discharging. There was a small abrasion on the skin of the off fore heel, said to result from an injury. The animal was left at the hospital for mallein test, and presented the following characteristic reaction :

Nov. 18.—2.30 P. M., 101 2-5 ; 7 P. M., 101 1-5 ; 11 P. M., 100 4-5.

Nov. 19.—8 A. M., 99 4-5 ; received 2½ c. c. mallein in left side of neck. 10 A. M., 100 2-5 ; slight puff at point of inoculation and a little soreness to touch. 12 M., 100 2-5 ; swelling increasing, more pain to touch. 2 P. M., 100 3-5; swelling and soreness about same. 4 P. M., 100 2-5; swelling and soreness about same. 6 P. M., 100 2-5; swelling increasing and soreness at point of inoculation. 8 P. M., 101; swelling and soreness about same. 10 P. M., 101; swelling increasing and soreness at point of inoculation.

Nov. 19.—8 A. M., 101 4-5; swelling more diffuse, with swelling of lymphatics of neck, very sore, abscess on side of face swollen to considerable size, some discharge from nose, no ulcers in sight in nasal cavities. 10 A. M., 101 3-5. 12 M., 101 3-5; swelling very painful, won't bear touching.

Nov. 21.—Temperature 101 3-5; appetite poor, did not eat oats; swelling at point of inoculation larger, more diffuse; swelling on right side of face larger; rather dull in appearance.

The condemned animal was destroyed, and at the post-mortem showed a large number of miliary tubercles, typical of glanders. The tumors of the outside of the body contained thin watery pus, with the characters of the peculiar nature belonging to the disease.

WHAT WAS IT?

By F. A. ZUCKER, D.V.S., Elizabeth, N. J.

A very peculiar case was presented to me on Sept. 23d. Was called to see a horse in the evening of this date.

History.—Had refused food the day before; was perfectly healthy previous to this time.

Observation.—Found a profuse discharge of saliva flowing from mouth; manger full of it, as the animal was trying to eat some oats. Offered him water, but he refused to drink. The left eye was very much swollen, and a watery discharge came from the nostrils. The tongue was swollen, and prevented the hand from reaching far into the pharyngeal cavity; teeth sharp. Temperature $100\frac{2}{5}$° F., pulse normal in character and amount; otherwise animal perfectly well; looked bright and showed no distressive symptoms.

Gave a gargle of potassium chlorate and aqua camphora and belladonna.

Was called at 5 A. M. next day, but through some mistake did not receive message until 8.30 A. M. Found horse down, apparently lifeless. Owner said he had thrashed about furiously before I came. They had given a colic drench before I arrived. I immediately performed tracheotomy, but this gave little or no relief. The salivation was checked by the gargle. Every few minutes he would kick and struggle with his legs, but could not raise his head. Breathing stertorous. The reflexes were visible, as he would respond when the cornea was touched or the ear tickled. After twenty-four hours, advised destroying the horse, as there was no improvement. They would not permit of a post-mortem, to my regret.

My theory is that the inflammatory products thrown out were carried down the trachea to the lungs and completely filled the air cavities. Hardly think there could have been a case of pneumonia with this history and symptoms.

A RECTAL "BALLOON."

By F. A. Zucker, D.V.S., Elizabeth, N. J.

This was not a mysterious case, but an interesting one. Was called to see a horse belonging to a colored man, which he thought had bloody piles, as he called it.

History.—The horse had colic the day previous, and was treated in New York, where he went every day. On arriving home that night he again showed signs of colic, and the man introduced a large sponge into the rectum. Upon withdrawal of the hand and sponge a large red mass also came.

Observation.—I was called two days later and found a large protruded sphere, which when percussed sounded hollow, or full of gas. Upon close examination found a laceration in the mucous membrane of the superior wall of the rectum and that this "balloon," as it were, was due to the inflation by the flatus being passed. If it were not for the inflamed and already putrefied condition due to maggots having gotten into it already, would have punctured it and allowed it to slip back.

Advised amputation, and, as the animal was 22 years old, gave a doubtful prognosis. Said he would let me know next day. Next day the "balloon" was almost twice as large, more flatus having gained entrance. I simply put an elastic ligature around the pedicle and told him to wash with creolin solution. Saw horse two days later and the mass was atrophied to a small knob, which previously measured twelve inches in diameter. I cut this away with my scissors and the rest slipped back with the ligature attached. Gave enemata of creolin solution twice a day, tonics internally. Two days later upon introduction of hand found ligature gone and all healed nicely. But the animal was losing his appetite. After a week anorexia was complete, and two weeks from time of operation he died. Whether it was due to old age, or the shock, I never could determine.

A HORSE THAT WAS HOMESICK.

By F. A. ZUCKER, D.V.S., Elizabeth, N. J.

I was called to see a horse which Mr. W. had traded several days previous, and new owner said would not eat. Examined teeth and found same rather sharp, and so floated same. This did not tend to produce an appetite, so started in on tonics, until this source was entirely exhausted. Then going back to that, which always tends to some enlightenment in making a diagnosis, "history," I found that the horse was gotten from a stable where he had been twelve years, and fed from the same manger and by the same man the entire time. Owner also said the horse refused the food from the first day he got him. Made up my mind that the horse might be homesick, so drove him down to his former stable, and, to the surprise of all, he pitched in like a starved animal, for he had not eaten as much as a blade of grass in two weeks. Took him home and he has not refused a meal up to this time.

THE COLORADO VETERINARY BILL.

The following bill is to be introduced in the Colorado Legislature during the coming session, and Secretary D. P. Frame writes the REVIEW that as it provides for the registration of all non-graduates within a certain period the veterinarians do not anticipate much opposition from that class:

A BILL FOR AN ACT

TO REGULATE THE PRACTICE OF VETERINARY SURGERY, MEDICINE AND DENTISTRY IN THE STATE OF COLORADO.

Be it enacted by the General Assembly of the State of Colorado.

Section 1. A board is hereby established to be known as the State Board of Veterinary Examiners; said board shall be composed of three practicing veterinary surgeons, who are graduates of some recognized but different colleges of veterinary surgery and medicine, which board shall be appointed by the Governor within thirty days after this act becomes a law. Said board shall be appointed, one for two years, one for four years, and one for six years. Thereafter the Governor shall appoint biennially one member of said board possessing the qualifications before stated. In the event of resignation, death or removal of any member or all the members of said board, the Governor shall appoint their successors within thirty days.

Section 2. The Board of Veterinary Examiners shall elect from its members a president, a secretary, and a treasurer, and may adopt such rules as they may deem proper for the performance of their duties, and to carry into effect the provisions of this act. They may also adopt a seal, which shall be affixed to all certificates issued by them, and the president and secretary shall sign all such certificates, but that no member of the Board of Veterinary Examiners shall require or accept any fee for services rendered in his capacity as such member of the Board of Veterinary Examiners, except their actual traveling and necessary expenses.

Section 3. It shall hereafter be unlawful for any person to practice veterinary surgery, medicine, or dentistry or any branch thereof in the State of Colorado without having previously obtained a certificate from the Board of Veterinary Examiners, or having registered as hereinafter provided.

Section 4. Applicants for certificates to practice veterinary surgery, medicine, or dentistry or any branch thereof, in the State of Colorado shall file their application with the Secretary of the Board of Examiners. If the applicant be a graduate of a recognized college of veterinary surgery and medicine, he shall present his diploma to the board or give satisfactory evidence of his being a graduate of a recognized college of veterinary surgery and medicine. The Board of Examiners shall examine all diplomas or evidences of such as to their genuineness.

Section 5. But it is further expressly provided that any person who shall have gained his livelihood solely from the practice of veterinary surgery and medicine as a profession in this State for the past five years immediately preceding the passage and approval of this act, shall be permitted to continue the practice of said veterinary surgery and medicine, if he shall within ninety days after the passage and approval of this act, register his name and address with said Board of Veterinary Examiners, and give satisfactory proof to said Board of Examiners that he has practiced in the State of Colorado for five years and is qualified to register under the provisions of this act.

Section 6. All persons commencing the practice of veterinary surgery, medicine or dentistry or any branch thereof in the State of Colorado after the passage and approval of this act, shall be graduates of a legally authorized and recognized veterinary school, college or university, and shall comply with the provisions of this act.

Section 7. Upon the approval of diploma or satisfactory evidence that applicant is entitled to register under the provisions of this act, said Board of Veterinary Examiners shall issue to such applicant a certificate to practice veterinary surgery, medicine or dentistry or any branch thereof in this State, and said certificate shall be conclusive as to the rights of the lawful holder thereof, to practice veterinary surgery, medicine or dentistry in the State of Colorado, provided that said board shall have power to reject any applicant for registration who is not fully qualified under the provisions of this act.

Section 8. There shall be paid to the Treasurer of said Board of Examiners, in advance, a fee of five dollars for each certificate issued to graduates of veterinary colleges, and a fee of ten dollars by all applicants for registration under section 5 of this act; and in case of failure of approval said fee shall be forfeited to the Board of Veterinary Examiners.

Section 9. It shall be the duty of said Board of Examiners to keep a register of all practitioners qualified under the provisions of this act, and to register the name, age, and time spent in the study and practice of veterinary surgery, medicine or dentistry, and if a graduate, the name and location of the school or college granting his diploma. Such record shall be *prima facie* evidence of all matters therein recorded, and shall be open to public inspection at all times, within reasonable hours, at the office of the secretary of the board. Such register shall be turned over to each succeeding Board of Examiners.

Section 10. The president of said board shall have the power to administer oath, and said board the authority to take testimony in all matters relating to its duties.

Section 11. Every person holding a certificate under the Board of Veterinary Examiners, shall have the same recorded in the office of the clerk of the county wherein he resides.

Section 12. Any person practicing veterinary surgery, medicine or dentistry or any branch thereof in the State of Colorado without complying with the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than $50 nor more than $300, or by imprisonment in the county jail for not less than ten days nor more than sixty days, or by both fine and imprisonment for each and every offense, and all fines collected in accordance herewith shall be paid to the Treasurer of said Board of Veterinary Examiners.

Section 13. Any person shall be regarded as practicing veterinary surgery, medicine or dentistry or any branch thereof, within the meaning of this act, who shall publicly profess to be a veterinary surgeon or prescribe for sick and injured animals, and accept fee for such services, or attach to his name the title "V.S." or "Veterinary Surgeon," or any veterinary title in a medical sense.

But nothing in this act shall be construed to prohibit gratuitous services in a case of emergency.

Section 14. All moneys received by the Treasurer of said Board of Examiners shall be paid by him to the State Treasurer, and all expenses of said board shall be paid out of this fund, upon warrants drawn by the State Auditor on the State Treasurer, and signed by the President and Secretary of the Board of Examiners, and no other money shall be paid out of the State Treasury for the use and purpose of this act, provided that any excess in this fund above the expenses of said Board of Examiners shall stand to the credit of said Board of Examiners.

Section 15. The said board shall meet as a Board of Examiners in the city of Denver on the second Monday in January and July of each and every year, and at such other times and places as they may find necessary for the performance of their duties.

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By W. V. Bieser, D.V.S., New York City.

Pancreatic Degeneration in a Horse.—A four-year-old stallion in spite of a good appetite kept emaciating more and more since March. Later it was noticed that drops of blood issued from under the periople at the crown of the hoof and the "chestnuts" appeared to be pushed off. By June 19th an extensive exudate of bloody serum showed itself at the junction of the hoof with the matrix in all four feet. The hoof was separated from its matrix in parts by the pressure of pus. A similar pathological process appeared in the chestnuts. The animal was markedly lame, had a pulse of 42 and a temperature of 38.8° C. The further course of the disease resembled purpura hæmorrhagica, the same swelling of limbs, abdomen, and sheath ; the nostrils were excoriated and the eyelids swollen. The mallein test gave a negative result. On Dec. 12, 1895, an examination at the Royal Vet. Hospital, gave the following congerie of symptoms : Temp. 39° C. ; pulse 48 ; respiration 9. The animal was markedly emaciated, the hind legs were swollen, there were many excoriations upon the hind legs, many sores over the surface of the body, the lips were œdematous, the eyelids swollen, a thick mucoid discharge issued from the eyes, a thin serous discharge from the nostrils, there was no glandular swelling ; the horse was very lame, one knee was swollen and thickened ; there were excoriations upon the coronet and glomes of the frog ; upon one hoof the frog lay free ; there was no abnormal odor. On Dec. 15th, tuberculin was injected with no reaction. The animal became worse rapidly and death ensued upon Dec. 24, 1895. Autopsy showed a remarkable change in the pancreas, which was enormously enlarged and weighed 16 lbs.; the excretory ducts were markedly dilated, so much so that two fingers could easily be inserted into Wirsung's duct; the ducts were filled with clear tenacious masses of mucous resembling albumen. The orifices of the two chief ducts of the pancreas were patent and dilated. The glandular tissue was greyish-yellow and cirrhotic. Upon section of pieces of the glandular tissue hardened in alcohol, microscopical examination showed an excessive growth of new connective tissue so great as to press the glandular substance closely together and in some places causing its disappearance. Here and there small non-cirrhotic areas appeared. The acini in these non-cirrhotic areas were markedly dilated and their epithelium showed mucoid degeneration.—(*Berl. Thierärzt. Woch.*)

TUBERCULIN AS A MEANS OF DIAGNOSIS IN SUSPECTED TUBERCULOSIS IN CATTLE.—Recognizing the difficulties that may confront the practitioner in the diagnosis of suspected tuberculosis, and influenced by the observations made in this particular sphere by Bang, Hutyra, Hahn and Nocard at the 6th International Vet. Congress at Berne, the author was led to use tuberculin as a means of diagnosis of doubtful cases of tuberculosis. The tuberculin was obtained from the Pasteur-Chamberland Institute of Budapest. Of fifteen oxen inoculated, 10 gave the characteristic rise in temperature of from 1.6° C. to 2.6° C. Their general condition remained about the same. At the site of injection, only a slight practically painless swelling showed itself. These ten suspects were thereupon isolated and two of them that had shown a rise in temperature of 2.4° C. were killed. The autopsy showed tuberculosis of the bronchial glands. These glands were of the size of a child's fist, and contained miliary tubercles (varying from the size of a hemp seed tc that of a lentil) in a state of cheesy degeneration. One of these cows also showed two small tubercular nodules of the same character in the lungs. The other organs were normal.—(*Berl. Thierärzt. Woch.*)

PELLOTIN, A NEW HYPNOTIC.—Lewin extracted many years ago the active principle anhalonin from the Anhalonia Lewinii, which resembles strychnine in its action upon animals. Hefter then extracted pellotin from another species of anhalonia, which in the form of the muriate of pellotin causes languor and then sleep in adults in doses of 0.04 g; slowing of the pulse is a concomitant effect. Jolly has noticed no other undesirable effects. It can be given inwardly as well as subcutaneously, 0.04 g. pellotin equals in potency about 1.0 g. of trional or 1.5 g. chloralhydrate. In one case of delirium tremens it was very successful, but on the contrary it has failed in other cases of sickness when a hypnotic effect was desirable.—(*Berl. Thierärzt. Woch.*)

LOCAL ANÆSTHESIA WITH HEATED COCAINE SOLUTION.—C. (Genoa) recommends in operations lasting a long time local anæsthesia by means of injection of heated cocaine solution heated to a temperature of from 50° C. to 55° C. This procedure offers the following advantages: 1. Weaker solutions than ordinary are needed when thus heated. 2. Local anæsthesia sets in almost immediately. 3. Heated solutions cause the subcutaneous connective tissue to become anæsthetic in wider zones. 4. Toxic effects are lessened, as one can get along with weaker solutions of cocaine when thus heated. Costa as a rule uses a solution of only one to two hundred or one to two hundred and fifty. Of prime importance is the knowledge of the fact that the solution must neither be *cooked* nor allowed to cool too quickly.—(*Berl. Thierärzt. Woch.*)

RESECTION OF A STRONGLY CICATRIZED TENDO-ACHILLES.—A hunting dog, whose right tendo-achilles had been severed by an axe thrown at him, and who gnawed off the bandage placed over the wound, was left by his owner to get over his injury as best he could, with the result that the tendo-achilles (owing to the excessive motion) after scarring became so lengthened as to cause great deformity. R. cut sidewise into the lengthened scar tissue between the ends of the severed tendon and resected a piece 3 cm. long, sewed the unscarred ends of the severed tendon together with catgut, then extended the foot into its proper position and immobilized it in that position in a plaster of Paris splint, with highly satisfactory results.—(*Berl. Thierärzt. Woch.*)

ITALIAN REVIEW.

A CASE OF TUBERCULOUS BASILAR LEPTOMENINGITIS is published in the *Clinica Veterinaria*, by Dr. Gerosa Guiseppe, who observed it in a bovine which presented only for principal symptoms the manner with which it carried its head on one side and low to the ground, and which at the post-mortem presented the meninges, principally at the base of the brain, covered with numerous tuberculous deposits. The singular apparent healthy condition of the patient, with the exception of its peculiar mode of carrying the head, had misled the author, who suspected the case to be one of cœnurus cerebralis.

SIX REPEATED ATTACKS OF PERIODIC OPHTHALMIA IN 161 DAYS—PRESERVATION OF THE EYE.—In *Clinica Veterinaria* A. Trinchera records this case, which is interesting from the fact that he succeeded in saving the eye, notwithstanding the frequency of the attacks. The treatment was as follows: the three first attacks were treated with compresses of camomile flower infusion, with boric acid at 3 per cent. The last attack received, besides these, application of a collyrium of tropine at 1 per cent. What will be the end?—(*Clinica Veterinaria.*)

SPASM OF THE DIAPHRAGM [*By Mr. Gerosa.*]—This is a simple case of the affection commonly called "thumps," and which readily subsided, notwithstanding the severity of the symptoms and of the attack, to one tracheal injection of 15 centigrammes of muriate of morphia and a mustard poultice near the stomach attachment of the diaphragm.—(*Clinica Veterinaria.*)

A PECULIARITY OF THE TECHNIC OF LOCAL ANÆSTHESIA BY COCAINE [*By Mr. Tito Costa*].—According to the author, local anæsthesia by cocaine, as generally applied, has two weak points: 1st. A large dose of the alkaloid has to be used when the operation is to take place on extensive surface, hence danger of intoxication. 2d. It is necessary to allow a certain lapse of time between the moment of the injection of cocaine and that of the operation. As a remedy to these objections Mr. Costa uses solution of cocaine at 50 or even 55 degrees, and he claims from this, the following advantages: 1st. The solution, at 5 or 4 per cent., has high anæsthetic power. 2d. The local anæsthesia shows itself immediately after the injection. 3d. With equal quantity of cocained solutions, the insensibilized zone is greater in using warm instead of cold solution. 4th. In using a weaker dose, which though it produces anæsthesia upon a wider surface, the dangers of intoxication are diminished.—(*Monog.*)

RUPTURE AND PROLAPSUS OF THE LEFT EYE WITH COMMINUTIVE FRACTURE OF BONES OF THE FACE AND DEEP WOUND OF LOWER JAW.—To the clinics of the Milan school numerous cases are daily brought, and Prof. Lonzillotti-Buonsanti records many of them. This is one: In double harness to a wagon, this is run into by a steam tramway, one of the team is killed, the other badly hurt, viz., the left ocular globe is partially torn and hangs out of the orbit, the skin of this side of the face is lacerated, there is a fracture of the orbital process, the lachrymal, zygomatic, and superior part of the upper maxillary bones. *Treatment:* Amputation of the eye, removal of the loose lacerated skin, extraction of the loose pieces of fractured bones, continued antiseptic irrigation (sublimate solution), dressing with iodoformed wadding and a contentive bandage. *Result:* Formation of healthy granulations after ten days at the bottom of the traumatism; seventeen days later discharged in convalescence, requiring only dusting of phenicated charcoal on the surface of the wound.—(*Clinica Veterinaria.*)

EXPERIMENTAL PATHOLOGY.

SEROTHERAPY OF TUBERCULOSIS [*By A. W. Tourkine*].—From experiments made on 46 animals, of which 6 were witnesses, the following conclusions of the author are made: 1. The horse is well disposed to furnish antituberculous serum. 2. In injecting horses with cultures of the bacillus of human tuberculosis in increasing virulency, a serum of some antituberculous activity is obtained. 3. The curative strength of the serum seems to increase with the number of injections of cultures. 4. Injection of equine antituberculous serum is not painful, and is not accompanied, in guinea-pig or cat, by local reaction. 5. The good action of the antituberculous serum is manifested by the diminution of the fever of the diseased animals after repeated injections. 6. Animals infected artificially, then treated with the serum of horse immunized against tuberculosis, obtain a longer prolongation of life than the witnesses. 7. In those same animals, the evolution of tuberculosis has a stage of arrest, but they, nevertheless, die by fatty degeneration of the organs. 8. Consequently, the treatment by serum of an immunized horse only postpones the time of death, in tuberculous guinea-pig and cat. 9. The author has not succeeded in obtaining, by injections of tuberculosis in the blood of dogs, a serum able to arrest the development of the disease in infected animals. 10. The action of the serum of an immunized horse is the same for tuberculous cats as well as for guinea-pigs. 11. The application of serotherapy to the treatment of human tuberculosis is premature.—(*Rev. Sc. Medic.*)

EXPERIMENTAL RESEARCHES ON THE AVIARY ORIGIN OF HUMAN DIPHTHERIA [*By L. Gallez*].—There exists in fowls an affection called contagious catarrh, characterized essentially by a glairy secretion of the mucous membrane of the mouth, nasal cavities and eyes, by a rapid emaciation, paralysis of the legs; the prognosis is very serious and contagiosity excessive. This is the affection which may become the origin of epidemics of human diphtheria. Its first cause is a bacillus which differs from that of Löffler by less virulency. Inoculated to guinea-pigs, when its virulency has been increased they are seen to die with the identical phenomena due to the bacillus of Löffler. Contagious catarrh of fowls seems to differ by its symptoms and etiology from the disease called aviary diphtheria. Between this last and human diphtheria there is only similarity of names. Antidiphtheria serum brings on the disappearance of the morbid secretions of fowls suffering with contagious catarrh, arrests their emaciation and, if it does not cure them entirely, it prevents the development of the disease as long as it is used.—(*Acad. Med. Belg.*)

IMMUNITY GIVEN TO RABBIT BY THE INJECTION OF ANTISTREPTOCOCCIC SERUM OF HORSES AND A NEW MODE OF USING IT. [*By M. J. Denys and L. Marchand*].—The serum of the horse immunized against streptococcus does not possess bactericidal properties proper, against this microbe; it does not destroy it directly, but it contains a substance which renders the phagocitar power of the leucocytes very great. If the antistreptococcic serum is submitted to too strong dilution, if the leucocytes are few and the micro-organisms numerous, the effect is reduced and is not lasting. In other words, by the addition of a little serum of an immunized horse, the serum of rabbit becomes, to the point of view of phagocytosis equal to the serum of the non-vaccinated rabbit. When erysipelas occurs in a rabbit it may be cut short by small injections of antistreptococcic serum round the centre. If, instead of making them in proximity, they are in equal doses on further point, the disease will be but little influenced. A region, in which a small dose of antistreptococcic serum is inoculated preventively, becomes refractory to a larger dose of streptococci.—(*Acad. Med. Belg.*)

TICKS AND TEXAS FEVER.—Mr. W. D. Clayton, of College Station, Tex., has just returned from Columbia, Mo., where he spent the past summer in the interest of a Texas cattle fever experiment conducted jointly by the Texas and Missouri Experiment Stations. Eight native cattle dipped and shipped from College Station were pastured at the Missouri Station for seventy-four days and no traces of fever appeared. The experiment is considered successful as indicating that ticks on Texas cattle carry the disease.

REVIEW OF BOVINE PATHOLOGY.

CONGENITAL ATRESIA OF THE UTERINE NECK—HYSTEROTOMY—EMBRYOTOMY—RECOVERY.—In the *Progrés Veterinaire* Mr. Marechal reports the case of a primipara to which he was called in consultation to deliver her of her first calf. At the vaginal examination he found that he could not dilate the os, but had to make his way through by dividing with the bistoury caché three successive contractions of the uterine neck, which prevented its dilatation and the introduction of the hand into the uterus. When he reached the cavity the fœtus proved to be so large that the two front legs had to be amputated before it could be extracted. The division of the strictures of the neck was entirely bloodless and the animal suffered no pain from it, as she kept up ruminating during the whole operation. She recovered without any bad manifestations.

PECULIAR CEREBRAL LESIONS [*By J. Guittard*].—This unusual case is rendered very interesting by the post-mortem examination, which explains the symptoms exhibited during life. A two-and-a-half months' old calf, in good condition, has for two or three days a dull appearance. He keeps his head up, extended, he is entirely blind in the right eye, sees some with the left, he still sucks but slowly. A diagnosis of disease of the cerebellum with lesion of the optic nerve is made. At the examination of the head the author found an abscess of the cranial cavity, as large as a small nut, and containing encysted pus, pressing on the optic nerve (explanation of the loss of sight); then again a separation at the occipito-sphenoidal symphysis, which prevented the action of the flexor muscles of the head (explaining the symptoms of elevation observed during life). All these lesions being due, according to the author, to rough handling of the calf while he was taken to and fro from his stable.

THE SPOILS SYSTEM ONCE MORE.—Governor-elect Tanner, of Illinois, who is generally regarded as a machine politician, must find himself in a dilemma as regards choice of the State Veterinarian, for there are not less than sixteen rivals who battle for the position. Among the most prominent men are Dr. Trumbower, the present incumbent, and Drs. Casswell, McMahon, McEvers, Tyffany and Wilson. Almost every applicant claims to have been promised the position, and the outcome is watched with curiosity by the veterinarians of the State.

HORSES IN THE UNITED STATES.

The Department of Agriculture has issued a bulletin showing the number of horses in the United States. The three leading horse-producing States are given in the following table:

YEAR.	Iowa.	Illinois.	Texas.
1880	778,400	1,078,000	963,900
1881	809,536	1,067,220	1,002,456
1882	816,092	1,012,851	338,343
1883	856,897	1,017,915	880,260
1884	891,173	1,028,094	889,063
1885	917,808	1,038,375	933,516
1886	945,445	1,048,759	998,862
1887	973,808	1,059,247	1,038,816
1888	1,003,022	1,069,839	1,225,803
1889	1,053,173	1,091,236	1,323,867
1890	1,095,300	1,123,973	1,350,344
1891	1,095,300	1,123,973	1,512,385
1892	1,314,360	1,337,528	1,209,908
1893	2,353,791	1,377,654	1,246,246
1894	1,367,329	1,308,771	1,183,895
1895	1,298,963	1,295.683	1,195,734
1896	1,182,056	1,179,072	1,183,777

The department groups the States into five divisions. Under each division is shown the number of horses in that division in 1880, and for every year down to 1896. In 1880 the United States had 11,201,800. January 1, 1896, the number was 15,124,057. The highest figure was reached in 1893, being 16,206,802. By reference to the table it will be observed that the three States named had four million horses, nearly one-fourth of the entire number in the United States at that time.

The gain in the United States from 1880 to 1896, a term of sixteen years, was 5,005,002. The decrease from 1893 to 1896, a term of three years, was 1,082,746. This is a decrease in the United States of over one-quarter of a million per year for the past three years. The total decrease in the whole United States during 1895 was 779,261, over three-quarters of a million.

None of the other States, besides Iowa, Illinois and Texas, have ever reached one million, except Kansas in 1893 and Missouri in 1894, both of these dropping back over one hundred thousand the next succeeding years. Ohio has between seven and eight hundred thousand, Indiana the same number. Michigan and Wisconsin rank next. East of Ohio the numbers do not vary much in any of the States, which shows that the surplus horses are practically all raised in the West. A few Southern States have made slight gains, but the increase is accounted for upon the grounds of recent agricultural developments in these

States. New York, a noted horse State, had 993,900 head in 1880, and has practically decreased every year since, except 1894, and now only has 654,045. Pennsylvania, the other largest Eastern State, had 602,200 in 1880, and January 1, 1896, had 607,516. She increased to 659,484 in 1894, but dropped back again to normal conditions in 1895.

THE ORIGINAL HORSE.

A small party of Frenchmen of science, which included Prince Henri of Orleans and M. Bonvalot, has lately returned from a journey of exploration through the vast and almost uninhabited regions of Central Asia. The expedition brought back several stuffed specimens of rare animals found in that part of the world, and among them a specimen of the hemione, or Klang horse. This animal probably approaches as near to the primitive horse as any now found in a wild state.

The home of the Klang horse is the high plateau of Chinese Turkestan, between Lake Lob Nor and the mountainous region of Thibet. This plateau is covered with a growth of short grass, on which the wild horses graze. The climate is very cold, the mercury in winter sinking to 40 degrees below zero, Fahrenheit.

The Klang horse is a shabby, unkempt-looking animal, having bodily somewhat the aspect of a donkey, except as to the tail and ears. It is, however, a genuine horse, having rather delicate legs and feet, and ears by no means resembling those of a donkey or mule.

The color of the head and of the upper part and sides of the body is a reddish-tan, shading to a bay, and though downward it contrasts strikingly with the pure white of the animal's belly and the inner side of the fore legs.

Along the spine runs a well-defined stripe of thick, blackish brown hair, extending to the root of the tail. The hair is long and shaggy, and adapts the horse to living in a cold country.

The Klangs, like all the other wild horses, live in bands or herds of one hundred to two hundred individuals, each presided over by an old male, says the *Youth's Companion*. This leader gives the signal when any danger approaches.

The Klangs are preyed upon frequently by wolves; but their most terrible and dreaded enemy is the ounce, or Turkestan panther, several specimens of which were shot by Prince Henri.

THE TUBERCULOSIS CAMPAIGN IN VERMONT.

The report of the Vermont State Board of Agriculture, acting as cattle commissioners, has just been published, in a very clear and admirable summary of 44 pages. It details the work under the new law of 1894 up to July 1, 1896. The first step was to prohibit production of cattle unless tested, this being done in the spring of 1895. Then C. M. Winslow was placed in charge of inspection in the first congress district and V. I. Spear in the second. The work done has been in all cases at the request of the owners of cattle, and so many requests have been made that it has been impossible to comply with them all. The work was first done in suspected herds and then extended to other herds as far as time permitted. It appears that "the disease is not evenly or generally distributed in the herds throughout the State, some localities being almost entirely free from it." Its introduction is not placed further back than 20 years, when cattle imported from Europe were brought into the State, and most of its progress has been in the past ten years. A strong word is spoken for sanitation.

But few tests have been made since July 1. In the 16 months prior to that date, nearly 15,000 tests by tuberculin were made. "In the 441 cases condemned in the first district, 439 were found to be diseased and in two we were unable to find disease; in the second district, of the 473 cases condemned and killed, disease was found in 471, only in two cases we failed to find tuberculosis and paid the owners full compensation." A number of cases are reported in which the test failed to reveal the disease when present. It is intended to make a second test within a year or 18 months of the first, of all herds where disease is found. Such tests made this spring have sometimes found one or two cases or none.

The present indemnity law has operated so satisfactorily as a whole that the commission does not advise any change. It provides for appraisal of cattle killed by a person appointed by the board and another by the owner, and if these two cannot agree, they shall select a third, "who, together with them, shall appraise the animal just before killing and on a basis of health, the limit of value being $40." If upon post-mortem the animal proves to be tuberculous, the owner receives one-half appraised value, otherwise full value.

The expenses of the commission have been less than $13,000 for stock condemned. The two active commissioners have drawn in salaries an average of less than $700 apiece. All the traveling and other incidental expenses of the board in this work were only $1350, and the veterinarians employed were paid a total of $4000.

	First district.	Second district.
No. of cattle tested for farmers,	4,804	6,461
“ “ “ “ drovers,	2,155	735
Total cattle tested,	6, 59	7,196
Condemned farmers' cattle,	441	462
“ drovers' cattle,	10	11
“ total,	451	473
Percentage condemned, farmers,	9.18	7.0
“ “ drovers,	0.46	1.5
Paid for cattle killed, farmers,	$6,707	$6,542
“ “ “ “ drovers,	$185	$204
“ “ “ “ total,	$6,892	$6,746
Av. paid per head, farmers,	$15.20	$14.16
“ “ “ “ drovers,	$18.50	$18.50
Grand total, No. of cattle tested,		14,155
“ “ “ killed,		924
“ per cent. found diseased,		4.53

SOCIETY MEETINGS.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting of this association was called to order at 8.45 P. M., Dec. 2d, at its rooms in the Academy of Medicine, by the President, Dr. Huidekoper.

On roll-call the following members responded: Drs. Amling, C. C. Catanach, J. J. Cattanach, J. S. Cattanach, J. S. Cattanach, Jr., Delaney, Ellis, Farley, Giffen, Gill, Huidekoper, Hanson, Loomes, Machan, Mackeller, Neher, O'Shea, and Ryder (18).

The minutes of the previous meeting were next read and approved.

Report of Board of Censors.—Dr. Gill, Chairman, reported favorably on the names of Drs. Bell and Winslow, who had made application for membership, and in reference to the application of Dr. Miller the board referred it to the association, stating that they considered Dr. Miller a very worthy and desirable applicant, but that he was not registered in the county. Moved and seconded that the report be accepted. Carried. After some discussion, it was moved and seconded that Dr. Miller be made a member of the association. Carried. Drs. Bell, Winslow, and Miller were then introduced to the association as members by the President.

Report of the Judiciary Committee.—Dr. O'Shea, Chairman, reported that the committee had arrested N. S. Bryant for practicing illegally; that as he pleaded guilty, they asked for the clemency of the court, and he was allowed to pass out of the court room under suspended sentence. Moved and seconded that the report be accepted. Carried.

The Veterinary Blue Book of New York.—Next in order was a report by President Huidekoper on the work being done by him in obtaining a correct list of registered practitioners in New York, pursuant to the preparation of "the Veterinary Blue Book of New York," which he proposed to contain the following lists of references: The New York State law regulating veterinary practice; a register of licensed veterinarians in New York, Kings, Queens, and Westchester Counties; the veterinarians officially employed in New York County and vicinity (by the Treasury Department, U. S. Government, by the Bureau of Animal Industry, U. S. Department of Agriculture, by the New York city departments, by the Society for the Prevention of Cruelty to Animals, etc.); the licensed veterinarians in New York State who are members of the New York State Veterinary Medical Society; the officers of the United States Veterinary Medical Association, New York State Veterinary Medical Society (incorporated); Veterinary Medical Association of New York County (incorporated), the officers and faculties of the veterinary colleges (New York College of Veterinary Surgeons, the American Veterinary College, the New York State Veterinary College at Cornell University); a digest of the United States, New York State, and New York City laws regulating glanders and contagious diseases in animals, inspection of meat and milk, removal of dead animals, licensing of dogs, auction sale of horses, cabs and cab service in New York City, importation and exportation of animals (interstate, to Canada, and to England, France and other foreign countries); regulations concerning transportation of animals by steamship, and by express companies from New York City; insurance of live stock in transport and from fire; information concerning and list of officers of the Jockey Club, the Coney Island Jockey Club, the Brooklyn Jockey Club, the Westchester Racing Association, the National Hunt Association, the polo clubs, the National Trotting Association, the Master Horseshoers Association, the Bookmakers Association, the American Kennel Club, the Westminster Kennel Club, the Metropolitan Kennel Club, the National Horse Show Association, the National Live Stock Association, the American Cat Club, etc. It is also proposed to insert some of the following advertisements: Veterinary colleges, veterinary hospitals and infirmaries, auction marts for sale of horses, dealers in horses, dealers in harness, dealers in wagons, dealers in stable supplies, custom-house brokers and commission brokers who attend to receiving and shipping horses, ocean steamship lines for transportation of horses and cattle, insurance (live stock in transport by railroad and steamship), insurance (live stock from fire), veterinary instrument makers and supplies, veterinary and sporting book dealers, veterinary drugs, dealers in mallein, tuberculin, antitetanin, etc. Moved and seconded that the proposition be accepted and the work placed in the hands of a committee of three for publication. Carried.

Election of Officers.—Nominations for President: Dr. Huidekoper was nominated and the nominations were closed. Nominations for Vice-President: Drs. Robertson and Ryder were nominated, when nominations were closed. Nominations for Secretary: Dr. Ellis was nominated, and nominations were closed. Nominations for Treasurer: Dr. C. C. Cattanach was nominated and nominations closed. The by-laws were suspended where there was but one nomination for each office and they were elected by acclamation. The following officers were declared elected: President, Dr. Huidekoper; Secretary, Dr. Ellis; Treasurer, Dr. C. C. Cattanach. Then the balloting took place for Vice-President, with the following result: Dr. Robertson received thirteen votes and Dr. Ryder five. Moved by Dr. Ryder and seconded that the election of Dr. Robertson be made unanimous. Carried.

The next order of business was the reading by the Secretary of a list of names of members eighteen months in arrears, in accordance with a motion passed at the November meeting. Moved and seconded that the Secretary be authorized to notify said gentlemen that final action had been taken on their names, except Dr. E. A. Parsons, who was vouched for by Dr. Gill, with the request that his name be excepted from the list for final notice until after the next meeting. Carried.

A communication from H. Clay Glover was read by the Secretary. Moved and seconded that it be referred to the Board of Censors for consideration, to be reported on at the next meeting. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S.,
Secretary.

ILLINOIS STATE VETERINARY MEDICAL ASSOCIATION.

The thirteenth annual meeting of this association, held at the Sherman House, Chicago, Ill., Nov. 17th and 18th, was called to order by President M. R. Trumbower, at 3 P. M. On roll-call the following members responded: Drs. A. G. Alverson, Albert Babb, A. H. Baker, S. S. Baker, F. L. Brown, John Casewell, L. Campbell, E. S. Fry, Robert Gysel, T. J. Gunning, W. C. Hanawalt, H. G. Hoover, Joseph Hughes, C. W. Johnson, J. H. Judson, O. J. Lanigan, W. J. Martin, C. A. Pierce, E. L. Quitman, J. F. Ryan, C. E. Sayre, J. L. Siegrosser, Olof Schwarzkopf, J. L. Tyler, M. R. Trumbower, W. F. Weese, M. Wilson and R. G. Walker.

The President then made his annual address, which was pregnant with facts regarding the present status of the profession in this State.

Dr. E. S. Fry then read his paper, "Inversion of the Uterus,"* which was liberally discussed; after which came the production of Dr. Chas. W. Johnson on "Parturient Apoplexy," which occasioned the usual protracted discussion of this perplexing disease.

On application the following gentlemen were admitted to membership: Drs. J. F. Black, A. E. Flowers, James Henderson, L. A. Merillat, Geo. McEvers and James Robertson, all of Chicago, together with Drs. Harri H. Dell, Sullivan, Ill.; G. A. Lytle, Barrington, Ill.; G. G. Ratz, Red Bud, Ill., and W. H. Welch, Lexington, Ill.

At the evening session the society listened to the meritorious paper of Dr. E. L. Quitman on "Therapeutics."* A spirited and lengthy discussion followed, and a vote of thanks was extended to the writer.

Society adjourned till to-morrow.

The society was called to order at 10 A. M., Nov. 18th, with the President in the chair.

Dr. W. C. Hanawalt read his essay on "Therapeutics of Salicylate of Sodium,"* which was liberally discussed.

Next came Dr. W. J. Martin with his article on "Fistulous Withers,"* which brought forth many practical suggestions.

Adjournment for dinner then followed.

Society returned to business at 3 P. M. and at once listened to Dr. W. F. Weese's paper, "Infectious Ophthalmia of Cattle."†

---

* Will be printed in February REVIEW.

† Published elsewhere in this number.

Several members then related their experiences with this disorder.

Then came Dr. James Robertson's production, "The Relation of a Veterinarian to the Horse-Shoer." It was a sound practical article on a very important subject, and was duly appreciated.

A recess of fifteen minutes was then taken for a general talk on the matter of legislation, after which the Treasurer, Dr. R. G. Walker, made his report, showing a small balance to the credit of the association.

Election of officers was next in order, and the following were chosen: President. M. R. Trumbower, of Sterling, re-elected; Vice-President, A. G. Alverson, Bloomington; Secretary, Albert Babb, Springfield, re-elected; Treasurer, R. G. Walker, of Chicago, re-elected. The present Board of Censors was continued another year.

The President appointed the following Committee on Program: Drs. A. H. Baker, J. F. Pease, and J. L. Siegrosser.

On motion, the Chairman appointed Drs. S. S. Baker, M. Wilson, T. J. Gunning, J. L. Tyler and Albert Babb as a Committee on Legislation, with power to act. All were determined to work for a bill in the coming session of the legislature, and the society assessed each member $10 to make up the requisite fund for expenses of the committee.

Dr. Drinkwater, of Iowa, was a welcome visitor; Col. Hamilton was also present, and gave us some timely suggestions in regard to legislation.

On motion the society adjourned to meet at the call of the President at Bloomington some time in February.

ALBERT BABB, A. B., M. V. C., *Sec'y.*

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

What proved to be one of the most pleasant and instructive meetings ever held by the association was called to order by President John R. Hart, Tuesday evening, October 13th, with the following members of the profession present: Drs. Francis S. Allen, H. A. Christman, C. M. Cullen, Charles T. Goentner, John R. Hart, W. Horace Hoskins, Charles Lints, Thomas B. Raynor, and W. L. Rhoads.

After the reading and approval of the report of the September minutes, the Chairman of the Committee on Certificates reported the progress of a most diligent search for the original minute-book of the association that they might have the correct date of its organization placed on the membership certificates.

Dr. H. J. McClellan having given up the profession of veterinary medicine, tendered his resignation to the association, which was read and referred to the Board of Trustees.

Dr. Hoskins then read an interesting paper entitled "Some Aspects of Association Works and Aims," in which he urged the necessity of a closer union of the profession at this time when we are so ill-prepared to stand alone as individuals; further than this, we need to foster a closer affiliation with our brother profession, that of human medicine. He spoke of the great danger to our own welfare and prosperity by the establishment in our midst of great marts of trade toward which every channel of trade seems to run. As a rule, their influences are not for the general good. He cited an instance where there had been concentrated under one roof the business of fifty or more individual houses, thus losing to the community the value of a number of good and efficient men. To the acute observer this means a loss to the manufacturer of drugs and chemicals, as well as the retailer and dispenser, also the carriage-builder, the harness-maker, the shoer, etc., *ad infinitum.* Undoubtedly the strength of our association circles first brought before the people the advantage of civil-service reform, and, after thoroughly enthusing them on the subject, has year by year gradually raised the standard of such examination till now, not the politician, but the proficient professional man is most sure of his position. Thus the association is an incentive to all to keep moving toward the top. The reading of this paper, which, by the way, was up to date, was listened to with great interest, and evidently thoroughly digested by each one fortunate enough to hear it.

The first of the half-hour talks arranged for this season's entertainment was by Dr. J. Cheston Morris, "On Some Statistics of Dairy-products and Thoughts Thereupon; Personal Experience in the Proper Preparation of Milk for Sale in the Markets and the Value of Separator-products of Milk." This, though looked forward to with great interest, was to all a most delightful surprise, as it was, without doubt, the most thoroughly comprehensive and instructive talk on this or kindred subjects ever given before the association. Dr. Morris spoke of the superiority of Devon cattle for the production of milk to be used in its natural state, as due to its relative proportions of butter-fat, casein, and sugar being the same, or nearly so, as those of human milk, as shown by the many thousands of analyses made and published by the Aylesbury Dairy Company and the society of chemists in Great Britain ; from these we may gather that Jerseys and Guernseys yield a milk relatively rich in fat, but poor in casein and sugar. Short-horns, Ayrshires, and Holsteins a more watery fluid, rich in casein, but relatively poor in butter-fat and sugar ; while Devons give milk nearly as rich in fat as the Jersey, and in casein as the Ayrshires, and richer than either in sugar. While the fat in a finely-divided natural emulsion is most useful and necessary in cell-growth, we are apt to over-value it and disregard the active agency of milk sugar, which, by its splitting into lactic acid in the digestive processes, causes the chemical changes in the phosphates and albuminates on which tissue-building and nutrition so largely depend. Hence the superiority of Devon milk, as shown in practical results. Skimmed milk yields a hard curd, difficult of digestion. The curd of cow's milk being more dense than the light, flocculent curd of human milk, in artificial feeding we use sugar or starchy material to make the curd more porous or spongy. The milk of the buffalo, goat, and ass illustrates the same truth. Lehman says a cow properly fed should yield 1 per cent. of her weight. The statistics kept by Dr. Morris (and they are certainly most complete and exhaustive, each sheet showing name, herd-book number, when dropped, when she calved, sex, color, and any peculiarity of calf, what became of it, if kept or sent to the butcher, when she comes in profit, the number of pounds of milk given each night and morning, when she is served and when due, her price and any peculiarities of her conformation, etc. ; these sheets, being carefully filed, give a complete life-history of each cow and her offspring) show that his cattle, which weigh from six to eight hundred pounds, have averaged him five-and-a-half times their weight, or about 3500 pounds of milk yearly (a most conservative estimate), on a feed of hay, corn-fodder cut green and mixed with hominy, bran, potatoes, and beets. He explained the method of the Devonshire people for raising cream and making butter, the sweet skimmed milk being fed to the calves. He has tried this process, but is now using a hand-separator, with which recently he obtained over four quarts of cream from twenty-eight quarts of milk (one pound of butter from seven quarts of milk), which he can use more profitably for calves than for pigs. After the talk Dr. Morris expressed a willingness to answer any questions put to him. He was kept busy for the next half-hour, being questioned relative to almost every stage and era of dairy-breeding and farming. Yet in every instance he was fully prepared, showing his great interest in and love for this work. In answer to some of these he described Guenon's system for selecting milkers by their markings—known as the scutcheon. He is in favor of inspection not only of the cattle, but of attendants and those who handle milk, claiming a tuberculous milkman may do more harm than a great number of tuberculous cattle. This examination should extend not only to the health of the cattle, but to their cleanliness and care of stables, milk-houses, etc. This examination should be made frequently and without warning. He felt the general average of health might be improved by proper food; also that the Danish method of separating tuberculous cows and using their milk after boiling to raise their own calves has been shown to be perfectly safe and successful, thus rendering wholesale slaughter unnecessary, and might be done without entailing a great loss. He figures it now costs four cents per quart to raise milk with hay at fifteen dollars per ton.

Dr. Rhoads now moved that in recognition of the great value of this talk to those present, and in consideration of the benefit his attendance and fellowship would be to us, that he be made an honorary member; this was seconded by Dr. Hoskins, and unanimously voted upon. The hour being late, election of officers was postponed till the November meeting.

W. L. RHOADS, D. V. S., *Secretary.*

IOWA STATE VETERINARY MEDICAL ASSOCIATION.

The ninth annual meeting of this flourishing association will be held on Wednesday and Thursday, Jan. 13th and 14th, 1897, at the Capitol Building, Des Moines, Iowa, and a most interesting programme awaits those who are fortunate enough to be able to attend. The efficient Secretary, Dr. J. E. Brown, Oskaloosa, has favored the REVIEW with the full programme, which includes the following interesting papers: "Serum-Therapy in Hog Cholera," Dr. A. T. Peters, Lincoln, Neb.; "Lymphoma," Dr. J. Miller, Ottumwa; "The Relation of Our Profession to Public Health," Dr. J. F. Kennedy, Des Moines; "Parasitic Diseases of Sheep," Dr. W. B. Niles, Ames; "Duties of the State Veterinary Surgeon," Dr. J. I. Gibson, Denison; "On the Contagion of Tuberculosis," Dr. H. Shipley, Sheldon; "Fungoid Growths," Dr. W. A. Heck, Keokuk; "Azoturia," Dr. J. A. Replogle, Centreville; "Thermo-Cautery in Veterinary Practice," Dr. P. O. Koto, Forest City; "Barium Chloride, its Use in the Treatment of Colic," Dr. J. E. Brown, Oskaloosa, The meeting will be in conjunction with the State Agricultural Society, and reduced fares can therefore be obtained.

NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.

The thirteenth meeting of the New Hampshire Veterinary Medical Association was held at the Eagle Hotel, Concord, on Tuesday, Dec. 8th, at 11.30 A. M., with Dr. Lilico in the chair. Drs. Lilico, Tuttle, Hart, Abbott, Russell, Macguire, and Pope responded to roll-call.

Dr. Pope read a report on the proceedings at the United States Veterinary Medical Association convention at Buffalo in September.

Dr. Lilico, chairman of the Legislative Committee, presented a proposed bill from the committee to go before the coming legislature. The bill was discussed by sections and a few changes suggested. Dr. Lilico was then authorized to employ counsel and have the bill put into proper shape and the penalties attached. After its completion the Secretary was instructed to call a meeting to reconsider the changes made.

Dr. R. J. Macguire then read a most interesting paper on "Abortion," which was followed by discussion. Meeting adjourned until March. L. POPE, JR., M.D.V, *Secretary.*

MISSOURI VALLEY VETERINARY ASSOCIATION.

The meeting of this association held in Kansas City, Dec. 9th, was well attended and the subjects presented were discussed with much enthusiasm. Only two papers were read, the remaining time being occupied in discussion of cases. The next meeting of this association will be held in Kansas City the second Wednesday in February.

HYDROZONE IN GASTRIC AND INTESTINAL DISORDERS.—The use of hydrozone in these affections is highly recommended by Dr. John Aulde, of Philadelphia, in an article which he published some time ago in the *New York Medical Journal.* Knowing the antiseptic properties that this compound possesses and in the presence of the results obtained by the doctor in gastric and intestinal disorders, the question can certainly not be improper as to whether similar results could not be reached in veterinary practice—for any of our domestic animals suffering with gastritis in any of its forms, in diarrhœic troubles such as those that accompany some of our microbic diseases. Hydrozone is certainly worth a trial at the hands of veterinarians.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

NEW COMMITTEES APPOINTED.

BOSTON, MASS, Dec. 28, 1896.

Editors American Veterinary Review:

DEAR SIRS:—The following is the list of Committees for 1896–97.

Minora.—W. Horace Hoskins, Chairman, 3452 Ludlow St., Philadelphia; Leonard Pearson, University of Pennsylvania, Philadelphia; D. E. Salmon, B. A. I., Washington; M. P. Hinkley, 359 Ellicot St., Buffalo; L. H. Howard, 67 W. Newton St., Boston; W. L. Williams, Ithaca, N. Y.; C. A. Cary, Auburn, Ala.

Army Legislation.—J. P. Turner, Chairman, Fort Meyer, Va.; John R. Hart, 2577 Amber St., Phildadelphia; Austin Peters, Jamaica Plain, Boston, Mass.

Publication.—W. L. Williams, Chairman, Ithaca, N. Y.; M. P. Hinkley, Buffalo; Sisco Stewart, 7½ So. James St., Kansas City, Kan.

Resolutions.—Leonard Pearson, Chairman, Philadelphia; W. Horace Hoskins, Philadelphia; F. H. Osgood, Boston; S. Stewart, Kansas City, Kan.

Incorporation.—A. W. Clement, 982 Cathedral St., Baltimore; C. P. Lyman, 52 Village St., Boston.

Finance.—W. Horace Hoskins, Chairman, Philadelphia; Jas. B. Raynor, 135 E. Gay St., W. Chester, Pa.; S. Stewart, Kansas City, Kan.

State and Foreign Corresponding Secretaries, Committees on Intelligence and Education, and Diseases have not yet been appointed.

Yours truly,
F. H. OSGOOD, *President.*

CORRESPONDENCE.

THE PASTEUR MONUMENT FUND.

The following letter from Chairman Salmon appeals to every American veterinarian, and we trust all will avail themselves of the honor and privilege of contributing something (however small) toward placing a permanent and suitable memorial to one who has done so much for medical science:

WASHINGTON, D. C., Nov. 24, 1896.

Fellow Members of the American Veterinary Profession:

An opportunity has been kindly offered us by the Pasteur Monument Committee of France to contribute to the memorial fund which is now being raised. No one can appreciate more truly than the veterinarian how much Pasteur did for our profession and for humanity, and no other profession can feel a deeper interest in the success of the American subscription. Up to this time the veterinarians of our country have done nothing towards this object, because the subject has not been properly brought to their attention. I now appeal to every member of our profession to contribute something to this fund. Whether it be one dollar or ten dollars, it will testify to the sentiments of the giver and will assist in swelling the fund which we hope will creditably represent the great country in which we live. All contributions should be sent by draft or money order to Dr. E. A. de Schweinitz, Secretary, Pasteur Monument Committee, Cosmos Club, Washington, D. C., who will duly receipt for the same. The subscription must be closed by February, and the Paris committee desires an estimate within a month of the amount that will be contributed in order that the work on the monument may be commenced. Will you not aid the Committee and sustain the reputation of our profession by acting promptly and liberally in this matter of international interest?

D. E. SALMON.
Chairman Committee on Pasteur Memorial Fund of U. S. Vet. Med. Assoc.

NEWS AND ITEMS.

DR. E. D. ROBERTS, of Janesville, Wis., is a candidate for State Veterinarian.

DR. WM. DOUGHERTY, of Baltimore, Md., is convalescent from a recent attack of rheumatism.

DR. M. E. KNOWLES, late veterinarian to Marcus Daly's Bitter Root stock ranch, has located at Butte, Mont.

DR. J. R. KELSO, of Baraboo, Wis., is trying his luck in Milwaukee, as he thinks that a better field for work.

DR. J. P. LAWS, of Madison, Wis., has been re-elected Instructor of Veterinary Science in the University of Wisconsin.

DR. J. W. SALLADE, of Pottsville, Pa., has been reappointed by the Governor a member of the State Board of Veterinary Medical Examiners.

THOMAS J. TURNER, D. V. S., has been transferred from Kansas City to Indianapolis, in charge of inspections for the Bureau of Animal Industry.

THE RIGHT MAN IN THE RIGHT PLACE should be kept there. Therefore, Dr. Robert W. Ellis was re-elected Secretary of the New York County Association at the December meeting.

DR. W. L. ZUILL, of Philadelphia, according to the *Journal of Comparative Medicine*, has recently embarked in the boarding stable business, having become the proprietor of two.

THE CHICAGO VETERINARY SOCIETY will hold a banquet at the Sherman House, at its next regular meeting on Thursday, January 14, 1897. The society numbers now about 40 members.

JOHN FAUST, V. S., the well-known veterinary surgeon of Poughkeepsie, N. Y., addressed the students of the American Veterinary College, Dec. 18th, his subject being "Tuberculosis, its Prevention and Eradication."

EDWIN WILLITS, A. M., LL. D., lecturer upon medical jurisprudence at the United States College of Veterinary Surgeons, Washington, D. C., late Assistant Secretary of Agriculture, and an earnest friend of veterinary science, recently died in Washington.

EIGHT CAMELS belonging to "The Streets of Cairo," an oriental exhibition which was showing at Coney Island, N. Y., last summer, became affected with chronic mange, and were destroyed by an officer of the Society for the Prevention of Cruelty to Animals.

OBITUARY.—John J. Gleason, son of C. A. Gleason, V. S., of Rye, N. Y., a very bright third-year student at the American Veterinary College, died on Sunday, Dec. 20, after a brief illness. A delegation of his classmates attended the funeral on Tuesday following, and placed upon his grave a wreath of affectionate sorrow.

DR. W. H. HARBAUGH, of Richmond, Va., was elevated to the presidency of the State Board of Veterinary Medical Examiners by the December REVIEW, which the modest veterinarian wishes us to correct, and we do so with pleasure, but desire to assure our readers that he is a very high private and a hard worker in its ranks.

LONG ISLAND VETERINARIANS are joining the Veterinary Medical Association of New York County gradually; two became members at the December meeting. Every graduate in the territory of Greater New York should unite to make this the grandest veterinary medical association in the world, which could be easily accomplished.

RECENT MARRIAGES OF VETERINARIANS.—Dr. Cecil French, of Washington, D. C., to Miss Florence Day, daughter of Mr. Edwin T. Day, barrister, of Montreal, Canada, Sept. 23. . . . Dr. W. L. Rhoads, of Lansdowne, Pa., to Miss Anna M. Moore, of Bromall, Pa., Oct. 14. . . . Dr. Jno. M. Parker, of Haverhill, Mass., to Miss Edith Helen Snell, of the same city, Oct. 27.

NEWTON S. BRYANT, a veterinary surgeon of Kansas City, who was arrested at the New York Horse Show, at the instigation of the New York County Veterinary Medical Association, for practicing without being registered, as detailed in the December REVIEW, was convicted by the Court, and sentence suspended at the request of the Judiciary Committee, they being satisfied with the moral effect of the conviction.

STATE VETERINARIAN TRUMBOWER says Illinois cattle are less troubled with disease than at any time the past year, but swine plague is prevalent in the northern part of the State. During the year's post-mortem inspection at the stock-yards only seventy-eight cases of tuberculosis were found and twenty-one cases of cancer. Carcasses of 802 cattle were passed on post-mortem examinations and 1643 condemned and ordered tanked.

CHESTER KIRKE, described by the Lewiston (Me.) *Evening Journal* as "something of a horse doctor," was arrested and pleaded guilty on Nov. 7th, to the charge of forgery. He owed a board-bill of $24.50, and forged a hardware dealer's name to a letter addressed to his landlady stating that on account of the doctor's difficulty in collecting, the undersigned assumed responsibility for his indebtedness, which the dealer promptly pronounced a forgery.

THE ALUMNI ASSOCIATION of the Chicago Veterinary College has passed the following resolution to be submitted to the United States Veterinary Medical Association at its next meeting: "*Resolved*, That the graduates of those two-year veterinary schools that inaugurate a three-year course on or before October 1, 1897, will be eligible to membership in the United States Veterinary Medical Association, unless otherwise barred by existing rules of the association."

A NEW DISCOVERY IN SERUM-THERAPEUTICS.—Dr. Marmoreck, of the Pasteur Institute, Paris, reports that equine anasarca has been found by him to be due to a variety of streptococcus. By the subcutaneous injection of the anti-streptococcus-serum, as it is used already in human erysipelas and puerperal fever of women, the germs are quickly destroyed, resolution established and all symptoms materially modified. Within a few days after injection, progressive diminution of the swelling sets in, followed by the disappearance of the petechiæ and lowering of temperature. The after-treatment simply consists of judicious feeding and the application of general tonics.

ISN'T IT NAUSEATING?—The following circular has come to our hands: "Wanted—[type two inches deep and a large cut of a well-proportioned horse]—We want every horseman to know that we make a specialty in the treatment of Chronic Lameness, and solicit all such cases as have been pronounced incurable by the Veterinary Profession. Ninety per cent. of such cases are instantly relieved. Strained Tendons, Knuckling, Navicular Disease, Chronic Laminitis, and Diseases of the Osseous Structure can be treated without taking the horse out of work. Our method is entirely new. Call and see us at our Infirmary, 114 E. Wilson St., Madison, Wis. Beattie & Beattie, Graduates of Ontario Veterinary College."

PROF. SCHWARZKOPF INJURED.—We regret to learn that this widely-known veterinarian was so unfortunate as to be thrown from a cable car in Chicago in November, from which he sustained serious injuries to his back, necessitating a confinement to his bed of two weeks. At first the physicians believed he was maimed for life, but his robust constitution was a safeguard against such a calamity, and we are pleased to announce upon authority of a letter from the patient that he is again at his work as though nothing had happened. In the crisis of veterinary medicine in this country, we cannot afford to lose members of the type of Dr. Schwarzkopf, and we, therefore, advise him to drive his horse in his excursions about the city. It is less dangerous.

NO MORE DOCKING IN QUEEN VICTORIA'S STABLES.—A floating paragraph of foreign intelligence announces the important fact that Queen Victoria has introduced a reformation of the docking practice in her own stables and is employing her puissant resources in the effort to induce H. R. H. the Prince of Wales to follow her example. The statement has more significance than may appear at first blush, for it implies that a blow has been struck at the very root of the inhuman practice. Once thoroughly discountenanced by the adherents of royalty in England it would quickly lose caste among their more or less unpatriotic and servile imitators in the United States. By all means let us applaud the good sense of Her Most Gracious Majesty.—*Trotter and Pacer.*

THE NEW YORK COUNTY ASSOCIATION has in contemplation the issuance of a veterinary medical register, which is to contain a full list of all registered veterinary surgeons in Greater New York, together with a great deal of useful information for veterinarians in regard to laws, regulations, etc., and a certain number of acceptable advertisements, to help defray the expenses of the undertaking. The idea is a good one, and the book will be of a great deal of service, not only to individual veterinarians, but to the profession at large, as the official list of registered names will enable members and others to report persons practicing without a license with the minimum of trouble. Every State association should have a similar list in the hands of every registered veterinarian in the State.

VETERINARIANS IN CHRISTMAS JOURNALS.—The Christmas editions of our large agricultural journals are becoming marvels of beauty. The illustrations are of a high artistic order and the typographical arrangements really luxurious. There is a tendency to bring on this occasion articles from well-known writers, and we note with satisfaction that the veterinary profession comes in for a good share of this feature. The *Horseman*, for instance, has lengthy contributions from the pens of Dr. Joseph Hughes on "Strains, their Nature, Effect and Treatment"; by Prof. Olof Schwarzkopf on "The Nature and Cause of Glanders"; by Prof. S. J. J. Harger on "The Digestive Organs of the Horse, their Nature, Functions and Diseases"; by Dr. A. S. Alexander on "Hygiene Applied to Breeding," and by Dr. W. E. Bruette on "Juvenile Equine Diseases." While the names of these contributors are sufficient guarantee for excellence of writing, still the skill with which some of these articles have been adapted for the unprofessional reader gives them an original touch and peculiar interest even for veterinarians.

THE BEAUTIES OF FREEDOM FROM STATE BOARDS OF VETERINARY EXAMINERS.—The following card reads to-day almost like a dream from far-off ages or long-since past conditions. Still not all States have as yet examining boards. "Joseph Reigner, Veterinary Surgery and Horse Hospital Infirmary. All Diseases of the Horse Successfully Treated or No Pay. 3736 Pearson Ave., Chicago. Moreover, great news to Horsemen: No more lame horses. A new and most scientific discovery, 50 years ahead of the age. Do not hesitate, but come and test these wonders. No Bleeding, Satan, Fireing, Blistering or Nerving. Will give you testimonials, and secure you for your horse, what more do you want, whoever wishes to learn how it is done, come and I will show you how to cure or prevent Spavin, Ringbones, Splints, Enlargement of the Heals, Corns, Stringhalt, Knuckling, Curbs, Sprains of Tendons, Windgalls, Acute Liminitis, Founder, Kneesprung, Weakness, Stumbling, Contracted Hoof, Toroughpin, Navicular Disease, Cutting, Overeaching. Charges moderate, keep the horse at work. If slow during cure, if desired I will buy your lame horses if you don't want them cured for yourself. Ambulance for horses unable to walk. Telephone, Yards 855. References—J. H. Thompson, Contractor, 2194 38th-st Joseph Courvil, Grocer, 2104 38th-st. Joseph Bouffard, 2040 38th-st. Saloon. Samuel Fournier, Grocer, 3821 California-av."

BACK NUMBERS OF REVIEW FOR SALE.

The following back numbers are for sale at 25c. each, and can be obtained from the REVIEW office, 141 West 54th Street, New York City:

1889—May. September, October, November. 1890—January, April, May. 1891—January, February, March, April, May, June, July, August, December. 1892—October, December. 1893—January, May, June, July, August, November, December.

AMERICAN VETERINARY REVIEW.

FEBRUARY, 1897.

EDITORIAL.

MORE THAN ONE!

In the January REVIEW we called the attention of the veterinary profession of the United States to some parts of the inaugural address delivered by Prof. Law, Director of the New York State Veterinary College, especially where he refers to the work done by the private schools of veterinary medicine, which we thought the worthy Director had treated in rather an unjust manner, accusing them of motives in their undertakings which we believe could not be applied in the general way he had presented them. We thought at that time our recriminations were sufficient, and that probably we had done our duty in showing in what a wrong light Prof. Law had presented the efforts of the private schools in establishing and elevating the veterinary profession in the States. In reading over again the Director's address, however, we observe another point for which, it seems to us, he should be called upon to answer.

After giving the reasons which, in his estimation, rendered the private schools detrimental, and which handicapped their usefulness and their success, Director Law says, in speaking of one of these reasons ("the sale of diplomas"): "*To this last, lowest depth of sordidness* MORE THAN ONE *veterinary college in America has sunk.*"

What! more than one? That one should be accused is bad enough; but he says there are more than one!

We ask of Director Law this plain question: *If one, which do you accuse? If more than one, how many? Name them.*

The accusation is degrading to all the private schools, and we cannot see how an answer to this question can be refused. Let the culprits be known. If they are not named, by what denomination shall the statement of Prof. Law be called?

The profession will answer if Director Law declines.

VETERINARIANS OF NEW YORK, KILL THIS BILL.

Last fall the REVIEW sounded an alarm that our law in New York State would be attacked during the present session of the legislature, and we advised all members to be on the alert, ready to strangle any attempt to break the integrity of our hard-earned statutes. Already the enemy is at work, and in the most despotic manner, for, as will be seen by the subjoined bill, he asks that the whole superstructure of our laws be torn down, and the "quack" permitted to register without any other qualification than a five-year practice. The audacity of the member who has introduced this abominable measure (Mr. Ives) is absolutely incomprehensible; it seems incredible that a public man would have the effrontery to thus insult the members of the veterinary profession of this State, after all that has been done by them in their struggles to elevate their calling. After the sacrifices which they have made and the hardships which they have imposed upon their members in placing themselves under the Regents' laws; and then to ask the legislature to annul the very foundation of their existence, is a piece of brigandage which should mark the member for life.

But the duty of every veterinarian in the State is so plain that we feel that we only need to declare the situation in order to throw them into the most active opposition to the infamous proposition.

We print below a letter sent out by the Secretary of the State Board of Veterinary Examiners, the alert and loyal Dr. Wm. Henry Kelly, of Albany, who very fully states the facts in the case, and advises concerted action by veterinarians. In order to make the attack gigantic, decisive, and final we would advise every reader of the REVIEW to act upon the advice given by Secretary Kelly, and let the communications be so earnest and emphatic that those who have the guidance of the bill will know what a reptile they are warming at their hearths; and if it be properly placed before them we feel confident that the bill will never come from the committee to which it has been referred.

The letter of Secretary Kelly and the bill itself are as follows:

STATE BOARD OF VETERINARY MEDICAL EXAMINERS,
SECRETARY'S OFFICE, NO. 195 WESTERN AVE,
ALBANY, N. Y., Jan. 19th, 1897.

DEAR DOCTOR :—Inclosed you will find a copy of a bill, which is in behalf of the "quack," and an attempt to amend our law. We must defeat it. This can be done, if each member of our society will write his Senator and Assemblyman a personal letter, stating his objections, and requesting them to call on Assemblyman Horton, Chairman of the Committee on General Laws; also write a letter to Assemblyman Horton, objecting to its passage, and asking for a hearing. Very respectfully,

WM. HENRY KELLY, *Sec'y.*

The Bill is as follows:

STATE OF NEW YORK—NO. 137—IN ASSEMBLY.

Introduced by Mr. Ives – read once and referred to the committee on general laws.

AN ACT

TO AMEND CHAPTER THREE HUNDRED AND THIRTEEN OF THE LAWS OF EIGHTEEN HUNDRED AND EIGHTY-SIX, ENTITLED "AN ACT TO REGULATE THE PRACTICE OF VETERINARY MEDICINE AND SURGERY IN THE STATE OF NEW YORK."

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section three of chapter three hundred and thirteen of the laws of eighteen hundred and eighty-six, entitled "An act to regulate the practice of veterinary medicine and surgery in the State of New York," is hereby amended so as to read as follows:

§ 3. Any person who has been practicing veterinary medicine and surgery, *or any branch thereof*, as a profession in this State, for a period of not less than *five* years preceding the passage of this act, without having obtained a diploma or certificate from a legally chartered or incorporated veterinary college, university or society, as provided for in section two of this act, must register *on or before January first eighteen hundred and ninety-eight*, upon making and filing with the clerk of the county in which he resides, an affidavit stating that he has been so practicing veterinary medicine and surgery for the period hereinbefore prescribed.

§ 2. This act shall take effect immediately.

A VERY IMPORTANT LEGAL DECISION.—A decision of great interest to the veterinary medical profession was given by Mr.

Justice Davy at a trial term of the Supreme Court held at Bath, Steuben County, on the 5th day of January, 1897. It was in the case of the County of Steuben against Wood. The prosecuting committee of the New York State Veterinary Society caused action to be brought against John Wood pursuant to Chapter 860 of the laws of 1895, for the illegal practicing of veterinary medicine.

The sole and only question involved at the trial was whether the dehorning of cattle was a surgical or non-surgical operation. It was contended on the part of the plaintiff that it was a surgical operation, and that the defendant was guilty of a violation of the statute and was liable to the penalty of fifty dollars for each day's practice. The defense claimed that it was a non-surgical operation, and that any unlicensed persons could perform the operation for hire without violating any statute. The State Veterinary Society employed Lewis Cass, Esq., of Albany, to prosecute the action. It was defended by the best legal talent in Steuben County. Upon the trial of the action, Prof. James Law, of the New York State Veterinary College, and Dr. Wm. Henry Kelly, of Albany, Secretary of the State Board of Veterinary Medical Examiners, were called as witnesses for the plaintiff. Both of these eminent gentlemen gave a very lucid and clear description as to what constituted a surgical operation, and although both were subjected to a very close and rigid cross-examination, the defense failed to shake or in any wise weaken the evidence given on direct examination. At the close of the trial the plaintiff's attorney requested the court to direct verdict for fifty dollars, being one full penalty, which was done. A stay of sixty days was given for the defendant within which to perfect the appeal to the Appellate Division. This is the first decision under the law of '95 upon this point. In fact, so far as we have been able to learn, it is the first decision of any court in the United States. This is a great victory for the profession. Mr. Cass feels confident he will be able to sustain the decision of Judge Davy before the Appellate Division.

ANOTHER STATE VETERINARY COLLEGE.—Not many years ago one of the veterinarians engaged in teaching in Chicago was, if we are well informed, actively endeavoring to have the institution with which he was connected become a branch of the University of Illinois. His efforts were serious, he was very enthusiastic, and he came very nearly succeeding. But, alas, for some reason or another, he left the college with which he had been affiliating and in behalf of which he had worked so earnestly; and it is thus that to-day the veterinary institutions of the great metropolis of the West are still private schools. But the West is jealous of the East; Chicago is jealous of New York; and as New York has had her State Veterinary College—for which the legislature has appropriated $250,000 for its buildings and $25,000 a year for its support—Illinois demands the same. The *Breeders' Gazette*, in an editorial, strongly advocates the establishment of such a school, with a similar appropriation. Every veterinarian and every one interested in live-stock will certainly approve of the demands and suggestions of the newspaper referred to. This country is large enough for more than one State veterinary college. One in New York, one in Chicago; that is a good beginning. A sarcastic said to us: "History repeats itself. Years ago there was but one private veterinary school, then came another, and another; to-day we have a dozen. Will it be the same for the State veterinary institutions?" We answered: "Perhaps"; and we are inclined to think that the sooner this occurs the better, if we are ever going to have "*the great National Veterinary College*" dreamt of by some of our friends years ago.

VIVISECTION IN THE DISTRICT OF COLUMBIA.—Our readers will remember our remarks upon a bill presented some time ago in Congress on this subject, and also our observations as to the "nigger in the fence," concealed from view by the wording of the bill. It was defeated. But those who fathered it did not give up hope of a better result next time, and so new steps are being taken in anticipation of ultimate success. A new bill is to be introduced in Congress, it having been favorably reported to the Senate in May last. Dr. C. W. Dabney, Jr., Assistant Secretary of Agriculture, has addressed a long letter to Hon. James McMillan, Chairman of the Committee on the District of Columbia, to which the bill has been referred. The exceptions taken by the Doctor are well to the point. They answer and expose the dangers of the passage of the bill and point out how the work of all scientists, of sanitarians, of the Bureau of Animal Industry, would be prevented, if such legislation were put in force. Upon other pages of this number of the REVIEW will be found the bill and the letter of Dr. Dabney in full.

THE THERMO-CAUTERY.—The days of old-fashioned cauterization are certainly gone from veterinary practice, and the old firing-iron and the forge are no longer used by veterinarians. The thermo-cautery has taken rank among the indispensable instruments of the veterinary arsenal. Paquelin's was first used in its original form, somewhat modified for veterinary purposes. Gradually many improvements and alterations have been introduced, and we have called attention to them as they were presented. To-day we call the attention of our colleagues to that one manufactured by Mr. F. Drumm, of 43 Park Street, New York. It is a light and very handy instrument, with which we have obtained very good results.

TUBERCULIN AND MALLEIN TESTS.—These tests have now entered into almost daily practice in the life of a veterinarian, and our professional journals contain a number of advertisements offering practitioners more or less advantages for the purchase, not only of the tuberculin and mallein, but also the instruments necessary in applying the tests. The Oakland Chemical Company, the Pasteur Institute of New York, the Pasteur Vaccine Company of Chicago, are good places to obtain the necessary ingredients for applying these important diagnostic agents.

ORIGINAL ARTICLES.

"SOME EXPERIENCES IN THE SOUTH."

By W. H. Dalrymple, M. R. C. V. S., Baton Rouge, La.

A Paper read before the United States Veterinary Medical Association, at Buffalo, Sept. 2, 1896.

Mr. President and Gentlemen:—When first asked by our worthy Secretary to prepare a paper for this meeting I hesitated, principally on account of the lack of time, partly on account of the trouble, and to some extent because it was extremely doubtful whether I would be present to read it. However, after a second persuasive letter from Dr. Stewart, in which he mentioned the fact that several gentlemen were coming long distances from both North and West to contribute to the success of the meeting, and that he felt sure that something in the nature of a Southern experience would prove interesting to our Northern and Eastern brethren, I felt constrained to yield to his appealing request.

I trust, gentlemen, you will not feel disappointed when I tell you that I have not confined myself to the discussion of any one specific disease. It occurred to me that as professional work in the South, especially in my section of the country, might be new to the majority of you, a paper of a general or rambling character might prove the more interesting.

Until some seven years ago, when I was appointed to the Chair of Veterinary Science in the Louisiana State University and American Medical College, with my domicile in the city of Baton Rouge, the capital of the State, such a personage as a graduated "horse doctor" may have been read about, but by the majority of the inhabitants had never been seen, and for some time I was in the eyes of those good people, a living, walking curiosity, presumed, no doubt, to be endowed with the supernatural ability to cure all the ills that animal flesh is heir to. In time, however, the novelty died out, and it was found that the qualified veterinarian, in human form, had none of the mysterious about his "make-up," but that he was simply an exponent of a noble branch of medical science, with a knowledge—from his training—superior to that possessed by the empiric, to whose tender mercies (?) and lack of knowledge had previously been intrusted the medical (?) care of their live stock.

This experience has reference principally to the country districts in Louisiana, outside the city of New Orleans, in which city graduates have been located for some years.

Veterinary medicine and surgery in the more Southern States are still in their infancy; but through the influence exerted by the reputable graduates the people are beginning to realize the value of intelligent aid in the care and treatment of their animals, in contradistinction to the illiteracy and superstition of the empiric, who is usually in the habit of compounding his mysterious nostrums at certain phases of the moon, and performing his so-called operations under similar lunar conditions.

The "quack" is still very largely in evidence, not only the native, but frequently we have men from further North, of the "flying specialist" type, who rarely make their appearance twice at the same place, but who usually make good use of their time and wits on their first visit, and succeed in taking the proverbial "barrels" of money out of the pockets of the credulous and confiding stock-owner. Unfortunately, we have as yet no State law to protect either the public or the profession against this class of imposition. In fact, I think the present existing conditions would hardly warrant legislation on this subject for some time yet. Outside of New Orleans there are few cities of any great size; stock generally, although improving very much of late, is not of a very high class, and in many cases the owners prefer to let them take their chances rather than send any distance for the services of a qualified veterinarian. This condition of affairs, however, is gradually changing as the value of our services becomes better known; but when I tell you that the State of Louisiana, outside of the city of New Orleans, can boast of only three or four qualified men you can readily see why it is that any sort of individual who makes the merest pretence to a knowledge of the diseases of animals is pressed into service.

There is one section of the State, however, in which the live-stock is of considerable value, and that is on the sugar plantations, some single plantations owning mules to the value of $20,000 or more; and of course the maintenance of health among these animals, from an economic standpoint, is a matter of great importance. Mules have been cheaper of late, but not so long ago sugar mules averaged from $175 to $250 per head, which will give you some idea as to the class of animals. The sugar belt being easily accessible from New Orleans, a good deal of the practice is done by veterinarians resident in that city. I have had a good deal of experience myself with the sugar plantation stock and its management, or perhaps I ought to say mismanagement, and to give a little of that experience might be of interest to the meeting.

I might state here that it is estimated that something like $100,000 is paid annually for sugar mules to replace those that die from disease and injury. This represents an enormous amount of loss, and it is evident there must be some substantial reason for it. Dietetic diseases are responsible for the largest percentage of the mortality, and gaseous or flatulent colic about heads the list. This is largely due to an almost entire want of knowledge of the anatomy of the digestive system and the physiology and chemistry of food and feeding. When first making investigations as to the predisposing and exciting causes of so many fatal cases of colic, enteritis, etc., I found an absolute lack of anything approaching a proper system of feeding. It was common on some plantations to feed the mules—during hard work—only once per day, and that at night, the manger consisting of a long wooden trough, and the mules all loose; the consequence being that, having to undergo such a long interval of fasting, the animals were so voracious that before their hunger could become appeased they had "bolted" a considerable quantity of grain, not at all or imperfectly masticated, resulting in fermentation, from want of proper mixture with the various digestive fluids, and the generation of gas; then, on account of being loose, the more pugnacious animals got more than their share and deprived the more docile of a sufficiency, besides inflicting injuries by kicking.

It is customary even now among a great many to feed twice per diem (at noon and at night), the last feed being sufficient in quantity for two or perhaps more ordinary feeds, to which the animals stand up until they feel themselves satisfied, which is well into the hours at which they should be lying down, resting their worn-out muscular systems.

The principal excuse generally offered for such a system is that of custom; and there is no doubt that the continuance of such absurd methods is largely due to the fact that the responsibility for the health and condition of the sugar-plantation animals is left almost entirely in the hands of illiterate and often superstitious individuals, as hostlers, who receive mere nominal wages, which is the height of false economy and is extremely inconsistent when we consider that for all the other departments, such as in the field and in the sugar-house, experts are engaged at good salaries.

Another cause of injury and many deaths among sugar mules is pressure over the loins from plough back-bands, producing paraplegia. The negro ploughman, if not closely watched, will shorten his back-band; place it, in some cases, close up to the external angle of the ilia, and then hitch his traces up to it, causing the greater part of the work of lifting and traction of the plough to be imposed upon the lumbar region, where there is least support to the back. His object here is, when shallow ploughing is required, to make the mule do the work he ought to do in elevating the point of a plough that really ought to be at the blacksmith's shop to be put in proper running order. Another reason, attributed to this style of gearing, is that when a slow-gaited negro gets a fast-gaited mule he resorts to this method with the object of causing uneasiness to the animal and a consequent slowing of his speed.

On account of the want of information with regard to dietetics on the part of many of the owners, a great many of whom are city men, and the greater part of the responsibility of the care of the live-stock being placed in the hands of the illiterate hostler, we have frequent instances of disease and death from inferior quality of food as well as over-abundant quantity. I can recall one in which sixteen mules were affected in the kidneys in various stages of disease, from insipid diabetes to suppurative nephritis. Before my arrival on the plantation five of the animals had died, the last one of which offered the opportunity for an autopsy. Each kidney weighed about six pounds, and on section revealed in the cortical portion numerous purulent abscesses. After making a number of inquiries regarding the food, I found that for two months previous the animals had been fed peavine hay which was almost in a state of nitrification. I subjected a sample to the action of sugar solution, resulting in the production of butyric fermentation, which you all know is putrefactive fermentation.

It might be interesting to notice here that the danger of this hay, which is extensively fed with us, is that if improperly harvested and cured or subjected to moisture, as from a leaky barn-roof, fermentation may easily develop potassium nitrate. The plant is the cow pea (*dolictos sinensis*), and nitrogen predominates in the peas and the leaves, while potash is most abundant in the stems. In harvesting the hay, if the leaves are not saved the loss greatly depreciates its value as a food and increases the stems with a superabundance of potash and a deficiency of nitrogen, and this excessive amount of potash in the stem of the vines also suggests most careful pains in curing, so as to prevent the development of this salt, which when continuously fed for a length of time, producing excessive diuresis, resulting in more advanced kidney derangement. It is not to be wondered at that such conditions as I have just alluded to did and still exist when we take into account the length of time the stock-owning public, and more especially in the agricultural districts, were in the hands and at the tender mercy of empiricism, with few if any in those sections competent to lend intelligent aid.

Changes are now, I am glad to say, gradually coming about for the better. The spirit of inquiry is taking hold of our more progressive stock-owners. Information is anxiously sought after with regard to the nutritive value of the various food-stuffs, nutritive rations, properly balanced rations, etc. On many plantations the feeding—during hard-working seasons—of the best and heaviest oats that can be procured, in which the necessary nutritious principles exist in the best balanced condition, is supplanting the system of exclusive corn-feeding, with its excessive heat and fat producing properties in proportion to its albumenoid or muscle-forming elements. The purest obtainable water-supply is being procured either from deep wells or through pumps from the vast waters of the Mississippi River, instead of from shallow wells, generally situated at the lowest portion of the stable lot, and being contaminated by seepage from the surface. The systematic feeding and watering of stock is becoming to be looked upon as a necessity for the maintenance of health and the prevention of disease. And so, where ignorance and carelessness once largely predominated, intelligence in a great measure now prevails. Although no State in the Union, I suppose, could produce relatively such an abundance of luxuriant native and other grasses as Louisiana, it seems paradoxical to state that we have to depend largely on the West for our hay supply, some of which is of such an inferior quality that I am convinced it would not be bought for food in any other market in the country except the South. Of course, as education in the science of feeding progresses with us, other markets than the South will have to be found for inferior articles of stock food.

From such causes we frequently get diseases of a myotic nature. A few months ago I was called to investigate the cause of a disease among a levee contractor's mules that were at work repairing the levee or banks of a section of the Mississippi River. I found thirty-eight of the animals in hospitals suffering from parasitic stomatitis, with extensive ulceration and denudation of the mucous membrane of the under surface of the tongue and of the buccal cavity. Sores had been produced in the angles of the lips by the bits, which no doubt favored access of the fungus. The food—both oats and hay—which was being used, and which was of a very inferior quality, was replaced by a superior grade, and in a short time, with the assistance of a little medication, the animals made a gradual and satisfactory recovery.

Among the contagious diseases with which we have to deal, glanders and anthrax are perhaps the two most important. We now have a State law for the control and eradication of contagious diseases, which was passed by the legislature during the session of 1895, but it lacks completeness.

Previous to the passage of the act we had a great many outbreaks of glanders, chiefly imported from other States by unscrupulous horse and mule dealers, who took advantage of our lack of legislation on the subject as well as of insufficient knowledge on the part of the prospective purchaser. Control and examination of outbreaks of the disease have usually resulted very successfully in the various parishes by the local authorities or police juries, as they are called, as soon as the disease was identified by some one competent to give an opinion, and all suggestions given with regard to the best sanitary measures to be adopted have always been strictly adhered to and carried out, with very satisfactory results. But, although the disease has been combated very successfully after its appearance in the State, we would require an organized inspection staff, with inspectors stationed at various points, to prevent the importation of diseased stock over the State line. Such an organization would, of course, require a considerable appropriation, and as yet our people are not sufficiently alive to the necessity for such an expenditure.

Osteo-porosis seems quite prevalent in the South. I have come across a number of cases, but personally I have not been able to do anything with the disease from a therapeutic standpoint. There is a wide field for our experiment station veterinarians in the investigation of this malady, as it militates very much against successful high-class horse breeding in the South.

We have annually a large mortality among our hogs, and unfortunately the term hog-cholera with us is so comprehensive that it covers all the diseases the porcine tribe is heir to. Although the hog industry in our State is assuming considerable proportions, and the herds of pure-bred animals are becoming quite numerous, the majority of the hogs are range animals—principally "razor-back"—and their food consists of what they can get to eat in the woods. Large numbers of them die annually, mostly from gastro-intestinal troubles. There is perhaps less attention paid to the hog with us, from a hygienic point of view, than to any other of the domestic animals, and as the result of inbreeding and general unsanitary conditions and surroundings the animal death-rate is large.

During the months of May and June last the northern parishes of Louisiana experienced one of the most extensive and virulent, and, from a professional standpoint, interesting epizootics of anthrax that has occurred for many years. But before proceeding with the description I might state that sporadic outbreaks in the Mississippi bottoms are not at all uncommon. Last summer I was called to a large sugar plantation where three mules had died so suddenly that the owner had suspected foul-play, but on seeing the cadavers I was suspicious of anthrax. An autopsy on one of them revealed pathognomonic post-mortem symptoms of the disease, which a subsequent microscopical examination verified, by the identification of the bacillus anthracis in the blood. The mules were being fed crushed corn and rice bran—the former a product of the plantation; the latter an imported article. I suspected the bran as a probable vehicle for the spores, as the rice might have been raised on a place that had been previously infected. I advised the discontinuance of the bran, for the reason just stated, and no more deaths occurred; but a fortnight afterward the bran was again inadvertently resorted to, with three or four more deaths resulting. After this the bran was entirely discarded, and no more fatalities from the disease have since occurred. Of course, the necessary sanitary precautions were adopted to check its ravages.

In the large cotton-growing sections in the northern portions of the State they have, generally in the spring, a condition in their mules which they consider anthrax, or charbon, as it is termed by our French population. It consists of an enlargement, often extending from the inguinal region to the xiphoid cartilage of the sternum, and in some cases to the carniform cartilage, but with no apparent constitutional disturbance whatever. Their treatment is extremely heroic, or, perhaps a better term would be, barbarous. Hot shovels, concentrated lye, the part saturated with turpentine and then set fire to, are examples, and if the poor animals survive this they usually recover, but with an eschar that they carry with them until death.

The condition is really one of anasarca, the result of indigestion. As soon as the animals have finished the work of cultivation they are turned into the cotton fields—after the cotton has been picked—to gather their living in the rows, in which there is a considerable quantity of grass, and for two or three months in many cases they receive no grain food whatever. When the time arrives in the spring for the ground to be broken the mules are brought up and without the slightest preparation are given full, hard-working grain rations.

During the prolonged interval between grain-feeding the system has become so inured to the light, easily digestible alimentation—which toward the last is somewhat scant—that it is generally more or less in a state of atony. The sudden change when in this condition to a more highly stimulating nitro-carbonaceous grain ration, requiring greater powers of digestion, produces indigestion, and from over-stimulation we have transudation of serum from the walls of the atonic blood-vessels, gravitating into the subcutaneous tissues on the lower portion of the abdomen.

As I have said, many believe this to be charbon, simply on account of the swellings; and if the animal—which really would in many cases recover without any medical help—survived the treatment, they were firmly of the opinion that they had succeeded in curing the disease. Such is an example of the state of our knowledge regarding some varieties of disease and its treatment. The genuine outbreak, however, which I previously mentioned and wish now to describe, has perhaps done more to bring into prominence the regular graduate and the veterinary profession in our section of the country and to upset the calculations of the illiterate "charbon doctor," with his vaunted "sure shot" charbon nostrums and reduce him to his proper place in the eyes of the intelligent class of people than anything that has happened within the last decade. It has been said that it takes a calamity to wake our people up, and the recent epizootic could be viewed as little short of that. The first indication I had of this outbreak was a dispatch from the general manager of a large cotton-planting syndicate, owning something like thirteen plantations, and four to six hundred head of mules. On one of the outlying properties, which was first affected, the disease was in a most virulent form, and the ultimate loss on this place was nearly if not altogether 100 per cent. Probably the most interesting point is that the outbreak was of cutaneous or carbuncular form, with flies as the transmission agents. The disease spread with such rapidity that it was in a very short space of time to be found doing its deadly work in some eight or ten parishes. The people were almost panic-stricken, and in their helpless condition, for want of intelligent information and from being largely in the hands of the "charbon doctors," who expected to reap a rich harvest, their efforts were directed solely to the treatment of individual cases, without the slightest idea of trying to stay the ravages of the disease by any attempt at any modern system of sanitary science. Charbonous carcasses were simply hauled out to the woods, where range animals were grazing, infecting the surrounding country, besides presenting laboratories where flies of various specimens could obtain fresh virus for distribution. This dangerous procedure was adopted in the early part of the outbreak, with the result that animals of all kinds became affected, either from grazing over the infected pastures or devouring the flesh of the charbonous carcasses. It was reported that the deer in the swamps were succumbing to the disease, and several authentic cases of the disease in human beings were recorded, some proving fatal.

The disease having extended to range animals, which were altogether beyond control, the more domesticated stock, as the work animals, cows, etc., only could be dealt with as regards treatment. Realizing at once the gravity of the situation and the likelihood of an extensive spread of the disease, I at once suggested protective inoculation with the Pasteur anthrax vaccine, to try to protect the work animals, so that the farming operations would be delayed as little as possible. Fish-oil emulsion was sprayed daily over the animals to prevent the attacks of flies, which were in alarming numbers, and the police juries of the various parishes passed a sanitary ordinance compelling the cremation of all charbonous and other carcasses.

The therapeutic treatment followed was that suggested by Durain of an iodine and potassium iodide solution internally. Broken doses of mercurous chloride, combined with a saline, were also administered. The external enlargements—as early as possible—were injected at various points, by means of an ordinary hypodermic syringe, with a 5 per cent. solution of carbolic acid, with two grains of bichloride of mercury to the ounce of the solution. This treatment, which was to destroy infection in the local area and arrest absorption, had been suggested by Arnoldow in malignant pustules in the human being. Unfortunately it was impossible to procure sufficient of the protective lymph at the outset to inoculate such a large number of animals, as the entire supply in the stock of the Pasteur laboratory in this country became exhausted, and Europe had to be drawn upon to complete the orders. Gradually the flies seemed to disappear or change their location; the disease became much less virulent, and whereas in the beginning it claimed from 75 to 100 per cent. as its victims, toward the last 75 to 100 per cent. seemed to recover, even without vaccination.

In some of the infected districts visited I witnessed a most interesting and I should think most unusual spectacle, but whether or not it was the result of anthrax would require to be decided by experiment. In some fresh-water lakes, into which charbonous carcasses had been thrown, large quantities of fish could be seen floating on the surface of the water, dead. It has generally been considered that fish, owing to their lower temperature, were refractory to the disease. But here we had a temperature at the time of 90° F., or over, with the temperature of the water relatively high, which may have been sufficient to bring about changed conditions of vitality, and if the fish were at all poikilothermic, may it not have been possible and even probable that they became infected and died of intestinal anthrax? This is a very nice as well as a very important point, which is worthy of further investigation, because, if such is the case, fish, under such conditions, may become a very important factor in the spread of anthrax, not only to the lower animals, but to man himself.

The section over which this outbreak spread is flat, thickly wooded, subject to inundation and very swampy.

Although flies of all kinds are always very numerous in summer, one of the species of "tobanus, the 'tobanus lineola'" was more so this year than had been noticed any year within the recollection of some of the oldest inhabitants. In fact, they were to be seen in the dwelling-houses in greater numbers than even the "musca domestica," at the height of summer; and during the time of their greatest numbers, animals were positively covered with them, and blood could be seen trickling down wherever the mouth-parts of the fly had been withdrawn.

The fly here being the transmissive, and the most important agent in the spread of anthrax, the thorough study of its life-history should engage the serious attention of the student of economic entomology. So far, I understand, the study of this species has not been satisfactorily prosecuted, on account of the difficulty of obtaining the ova and breeding the flies artificially, although it does seem to be known that the larva lives in damp earth and in water, and that the adult is abundant in the neighborhood of swamps. Many points of interest crop up as to the various ways, besides inoculation, it is probable for the fly to propagate the disease. I do not think it is a settled point whether or not the disease kills the fly. It is probable that the excreta of the fly may contain bacilli which afterward sporulate on the grass or herbage which is eaten by stock, etc. These and other points are worthy of elucidation for the protection and benefit of stock-owners, at all events, along the region of the Mississippi valley; and if some means could be discovered for the destruction of the ova or larvæ of this and other species of blood-sucking flies, it would be a tremendous boon to the inhabitants of my part of the world. This has been one of if not the most extensive outbreaks of anthrax on record, so far as I am aware, brought about by the external or cutaneous mode of infection.

I feel, gentlemen, I have occupied a great deal too much of your valuable time with a paper which contains so little of a scientific nature, but, if I have by chance touched upon any subject which may be of interest or perhaps benefit to any of you, I feel fully compensated for any little time or trouble I have taken in its preparation.

COMMUNICABLE ANIMAL DISEASES.

By W. Herbert Lowe, D. V. S., Paterson, N. J.*

A Paper read before the New Jersey State Sanitary Association, Dec. 12, 1896.

Mr. President and Gentlemen of the New Jersey State Sanitary Association:

The importance of the subject of communicable and infectious diseases of animals can hardly be overestimated if we consider the money value of the animal industry of this State, including the intrinsic value of the animals themselves for their respective kinds of service; the value of a wholesome and healthy meat production and the large dairy interests within the confines of New Jersey.

---

* Former United States Veterinary Inspector of the Port of New York.

But the importance of the subject does not stop here. The economic is only one side of the question, for the public health and human life itself are dependent in no small degree on the physical condition and the healthfulness of our domestic animals.

Trichina, echinococcus, the beef and pork tapeworms, strongylus gigas, actinomycosis and other parasites which affect man come directly from domestic animals. Glanders, rabies, anthrax, tuberculosis and other deadly microbian diseases that affect the lower animals can also be communicated to the human family. The closest relationship and interdependence exist between communicable or infectious diseases as they appear in animals and in man. Certain parasites make successive appearance in man and animals at different stages of their development, the same being a condition of their propagation. The echinococcus, the beef and pork tapeworms, and even the trichinæ may be mentioned to illustrate this point.

Our present knowledge would indicate that it is impossible for the echinococcus of the beef tænia to live in the same host, or in a host of the same genus in both its larva and mature condition.

Man eats the meat and drinks the milk of the cow, which may convey the seeds of consumption to himself, for the tubercle bacillus of the tuberculosis found in the cow is identical with the germ of the human being. Recent bacteriological work and discoveries have thrown great light upon the cause and mode of transmission of infectious diseases affecting men and animals. Bacteriological science is but in its infancy, but enough has been learned to settle many problems and to determine rational and practical methods in the crusade against microbian and other communicable diseases.

It is not long since we were engaged in the work of the suppression and extermination of pleuro-pneumonia contagiosa from this State and nation. It will be recalled that the disease had a foothold in certain counties of this State, and at one time bade fair to invade the whole country; threatening the animal industry of the nation; entailing great money loss to a large part of the people. It did not take long for the people to reach legislative halls and secure proper State and national legislation for the suppression and the extermination of the plague. New Jersey is so situated geographically and the animal traffic so extensive that the work of extermination became no trifling matter. Our State Board of Health was ever diligent in stamping out new outbreaks and in limiting extensions of the disease, but it was practically impossible to prevent fresh introductions of the contagion without federal aid, which was not withheld. The work of extermination of contagious pleuro-pneumonia soon became a national question and the professional talent and the executive ability of that distinguished veterinarian, Dr. D. E. Salmon, the Chief of the United States Bureau of Animal Industry, was equal to the occasion, and the animal wealth of the nation has been protected and that dreaded plague exterminated from the United States.

I have alluded hastily to these facts connected with the extermination of pleuro-pneumonia contagiosa in the United States to show that the people of this country are not slow to protect the wealth of the nation from an animal plague. In the matter of contagious pleuro-pneumonia it was solely a financial question, as above indicated, for no one ever heard of a human being contracting bovine contagious pleuro-pneumonia, whereas in the case of many of the other contagious animal diseases, the health and the very lives of the people are endangered if proper sanitary and limiting measures are not adopted and if safeguards are not heeded regarding the meat and milk supply. It is an old saying that "health is better than wealth," but it seems to me that the truth of this saying is sometimes lost sight of by our people in their enterprise and the multiplicity of their affairs.

The caring for the contagious animal diseases in this State has during past years been entrusted to the State Board of

Health, and it is hardly necessary for me to allude to the effectiveness of the untiring efforts of our deceased fellow-laborer, the lamented Dr. Ezra M. Hunt. The good work inaugurated by Dr. Hunt is still being carried on and extended in many ways by the present able Secretary of the State Board of Health and his co-laborers. This board was successful last year in suppressing anthrax in Cumberland County and elsewhere in this State, and I am pleased to say that there has been no return of the disease during the present year. Forty-five cases of glanders were reported, of which number five cases upon examination showed no evidences of the disease. All the other cases were destroyed and action taken to prevent extension of the disease. The mallein test has been employed as a diagnostic agent in suspicious cases with satisfactory results. In speaking of glanders I am reminded of a farcy case presenting some dangerous and alarming features that came under my observation some two or three months ago. A poor man bought a horse with sores on its legs, being told by the seller that the sores were only fly-bites. His twelve-year-old daughter bathed the sores for a week or more, when I was called. I explained to the parents the nature of the disease in the horse and the danger of inoculation to the girl and advised treatment. Fortunately the girl has shown no symptoms of the disease, and as two or three months have elapsed it is probable that she was not inoculated with the virus.

The limits of my paper are such that I must pass on rapidly. But before doing so let me state that the investigation and control of one single infectious disease has assumed such importance in our State from both a sanitary and from a financial standpoint that the legislature two years ago, if I remember rightly, took the control of it out of the hands of the State Board of Health and passed a law creating a special commission on tuberculosis in animals. This commission unfortunately is limited in power and in funds. But nothing has prevented them from prosecuting the duties imposed upon them to the full extent of the means at their command. Under the statute they can only act when *requested* by the State Dairy Commissioner, the State Board of Health, or at the request of the owner. They have no power under the law of their own volition to examine any herd, no matter what its condition may be, without the request or consent of one of the foregoing. When the commission organized and commenced its work some individuals were strongly opposed to it. These people mostly did not understand the insidious, chronic nature of tuberculosis and that it was transmissible to the human family. Others from selfish motives were afraid that it would hurt their dairy business, and so on. The commission, however, soon proved itself equal to the exigiencies of the work. Its experienced and able Secretary, the Hon. Franklin Dye, inaugurated what was essentially "a campaign of education." His far-seeing intelligence told him that the only real danger to the ultimate work of the commission was an ignorance on the part of dairymen, cattle-men and others, of the essential nature and danger, not only to the animals, but to the health and wealth of the people themselves. When we consider that tuberculosis kills more people than any other disease among mankind and that the tubercle bacillus of tuberculosis is transmissible from the cow the importance of the question that confronts us becomes more evident from a sanitary standpoint. The commission is a most conservative and safe body, moving slowly, but surely, doing effective work. When called upon it inspects an infected herd, making a careful physical examination of each individual animal and testing with tuberculin any cases that cannot be diagnosed without its aid. Diseased animals are condemned, appraised, killed and autopsies made and owners are paid three-fourths of the appraised values. Premises are disinfected. The matter of proper ventilation, sunlight and good sanitary conditions in general are encouraged as far as possible.

No public work where so many interests are involved was ever conducted without criticism and opposition to some extent, but I must say that I am surprised at the support given the New Jersey State Tuberculosis Commission by producers and consumers. Both see the importance and value of healthful food products, and I have yet to meet the man that has had dealings with the commission that was not well satisfied and was not ready to support the furtherance of the work.

The "campaign of education" has been already productive of much good. The preliminary work so far has been judicious, careful and thorough. It does not speak well for the people that this commission should be hampered in the important trust that has been committed to its care. I therefore bespeak for the commission that the legislature be asked to enact necessary amendatory legislation and appropriate sufficient funds to prosecute successfully the work in hand.

Before concluding these fragmentary remarks, I would invite your attention to what I personally believe to be a very important phase of the subject from an economic standpoint, which I referred to quite fully in an address recently delivered before the County Veterinary Medical Association of New York, at the New York Academy of Medicine. I refer to the necessity of breeding animals of greater constitution, stamina and vigor. The fact that tuberculosis is caused by the tubercle bacillus and is therefore not hereditary, does not lessen the importance of breeding dairy cattle having substance and stamina sufficient to resist infection and development of the micro-organism. We all know that in time of war a city that is not properly fortified is easily taken by the enemy. So, the animal body, if not fortified with a strong constitution and stamina, will be readily invaded by the micro-organisms of infections. The proper pabulum or soil for the development of microbes is only second in importance to the microbe itself. All persons exposed to infection of tuberculosis, small-pox, or scarlet fever, do not take the disease because all are not alike susceptible. All men that eat the flesh or drink the milk of tuberculous cows do not contract tuberculosis. Whatever in any degree weakens or impairs the system of men or animals renders them liable to the invasion of disease. The animal that inherits a strong constitution and good health from its progenitors possesses a disease-resisting power that often means an immunity. If this principle of heredity was kept in mind in breeding dairy cattle there would not be so much tuberculosis. Environment, sanitary conditions, climate and food have also important influences upon the causation and development of tuberculosis, which department of the subject I hope to be able to treat more fully upon some future occasion. There is little benefit to be derived from destroying affected animals if you keep on breeding weak, delicate and deteriorated cattle, which, when developed and forced to their full milking capacity, and stabled in a crowded, ill-ventilated, damp, dark, filthy and unsanitary condition, will not be able to resist the dreaded micro-organism.

This breeding problem promises great and far-reaching results, if intelligently carried out by our farmers and breeders. In the human family no such theory could be carried out, but in the animal kingdom there is nothing to prevent, and I trust that the matter will receive the consideration and attention that it deserves.

FISTULOUS WITHERS.

By W. J. Martin, V.S., Kankakee, Ill.

A Paper read before the Illinois State Veterinary Medical Asssociation, Nov. 18, 1896.

Owing to its prominence in the equine species, the dorsal region is exposed to many traumatic injuries. One of the most common of these, and at the same time obstinate diseases which affect the horse's body is that pathological condition known as fistulous withers. The name is by no means an elegant one, but, like many others used in veterinary nomenclature, is very expressive of the location of the malady.

The location of fistula is usually on the right side of the body, near the summit of the superior spinous process of the dorsal vertebræ; it frequently extends backwards from about the fifth to the tenth dorsal spine; quite often it involves both sides of the withers. The anatomy of the region is so well known to all practical surgeons that no minute anatomical description need be given here of the muscles, bones and ligaments involved in this disease.

Etiology.—The causes of fistula are often obscure. In many cases fracture, or bruise of the superior spinous process of the dorsal spines or necrosis of the tuberous ends of the same, almost invariably gives rise to it. Injuries to the dorsal spines are generally caused by the animal rolling upon some hard substance, such as a stone in the pasture or in getting cast in a narrow stall. Running against low shed or barn doors, low hanging timber of trees in the pasture, are often prolific causes of this disease. It is often caused by the animal's skin being infested by parasites, such as the *sarcoptes equi*, *dermatodectes equi*, and other itchy skin affections, which cause the animal to rub its neck and shoulders in a violent manner against fences or the corners of buildings. Horses at pasture, more especially young animals, are much given to the habit of playfully seizing each other with their teeth over the withers; thus producing an abscess and often a fistula. Anatomical confirmation often plays an important part in the cause of this disease. Horses whose dorsal spines are abnormally high and ragged, are much predisposed to this disease; again, heavy draught animals, whose withers are low and broad, are likely to have the parts excoriated by the saddle-tree of the harness slipping forward while engaged in drawing heavy loads. In text-books on veterinary medicine and surgery, the most common cause of fistula mentioned is that caused by an ill-fitting saddle. This, I have no doubt, is in the main correct, though in the section of country in which I reside, horses are seldom used for saddle purposes; still, fistula of the withers is quite common.

Fistula may also make its appearance as a sequela to attacks of influenza, purpura hæmorrhagica or in general debility in which the animal's blood is left in a vitiated condition. I can recall to mind one instance in practice, in which, during one week, there came under my care six cases of fistula, all of which had recovered but a short time previously from influenza. From this it would appear that the septicæmic product of a specific disease in the blood of an animal can, by extravasation through the walls of the blood vessels, localize itself in the glands or tissues of an organic being and there set up inflammation from which pus is generated, which in turn destroys the texture of these tissues and thus gives rises to a true abscess. I am aware that this theory is denied by some pathologists, they claiming that the specific germ of a disease is never found in any form of pus unless the cavity containing this pus has had free access to external air containing the specific germs.

Symptoms.—The time during which a fistula may exist without exciting the owner's attention is sometimes quite long. A small tumor, often not larger than an orange, may be present for several weeks or even months without causing the animal any inconvenience other than a slight itchiness of the parts. Perhaps at this stage of the disease there is no discharge from the enlargement; in the majority of cases but one side of the withers is affected, and this is usually the right one. During this primary stage of the malady, appearances are quite deceptive; all this time the disease is burrowing down among the muscles and tissues and destroying them. In many of these apparently mild cases the dorsal spines will be found to be considerably diseased. The contents of the fistulous sac during this early stage (and usually long afterwards when not interfered with surgically) is a thin straw-colored fluid in which flakes of clotted lymph float free. Where any of the various blistering liniments have been applied by the laity to "scatter the bunch," this fluid is changed into a thick creamy pus when the animal is healthy and in good flesh; it may also be thin and of a sanious nature, foul smelling and streaked with blood, when the animal is emaciated and in ill-health. I am aware that many authors divide the many injuries and diseases found upon the withers into several classes, such as œdemas, hæmatomas, cysts, abscesses, etc. For my part, I have been unable to make these nice distinctions in actual practice, finding that one or the other usually ends in a case of fistula.

Treatment.—The late Dr. D. Hayes Agnew said in regard to the treatment of fistula in the human species, that all fistulous tracts and sinuses should be laid open by a probe-pointed bistoury and the cavities packed with dry or oiled lint. I have also found this to be an excellent method of treating this class of diseases in the equine species. For several years past my treatment of fistula has been wholly surgical. I do not believe in the use of caustics for this disease, for by their use much destruction of healthy tissue is caused. Again, caustics often cause a permanent thickening of the entire dorsal tissue on each side of the bones, rendering the animal oftentimes worthless for hard labor. I rarely think of using antiphlogistics to allay inflammation in the parts. This is, I must confess, in the majority of cases, valuable time lost. Usually by the time the animal comes under the hands of the surgeon all primary inflammation has subsided. I much prefer at this time a smart blister, well laid on, composed of the ointments of red iodide of mercury and cantharides in combination, two parts of the former to one of the latter. This serves to hasten suppuration, thins the skin over the tumor and leaves the parts in an excellent condition for the operation. In regard to the constitutional treatment: when the animal is much emaciated a generous allowance of food must be given. This may be further supplemented by iodide of potassium, hyposulphite of sodium, sulpho-carbolate of zinc, or the liquor acidi arseniosi, as the case may require. I place, however, more implicit confidence in a generous supply of food, and that of the most nutritious kind, than in any medicinal agent given internally.

Operation.—It is seldom necessary to cast an animal for this operation. A good twitch firmly applied to the upper lips serves fairly well to keep the animal quiet. A much better operation can be performed with the animal standing than in the recumbent posture. If setons have to be inserted deeply, it is often impossible and positively dangerous, to attempt this while the horse is cast, for by its struggles it not only endangers itself, from the long, sharp seton-needle, but the hands of the operator as well. It is only in cases of long standing and where the animal has become extremely vicious from the repeated injections of caustics, that it becomes necessary to confine the animal; even then it is often impossible to operate properly without first administering chloroform. The hair and mane over the tumor having been removed by clipping, or, better still, sheared, the parts are thoroughly washed with warm carbolized water, in which all the instruments for the operation have been immersed; a straight incision extending from nearly the summit of the dorsal spines, is made through the centre of the tumor and is carried downward through the muscular tissues to near the border of the cartilage of prolongation of the scapula, if found necessary to do so. This insures good free drainage for the entire diseased mass. Bleeding vessels can be easily closed by torsion with the artery forceps after making the main incision. The fistulous canals are now sought for with the index finger of the left hand and as found are to be laid open their entire length with a probe-pointed bistoury, or, better still, a long-bladed hook-shaped knife made expressly for the purpose. After being thus laid open, the fistulous tracts are thoroughly curetted, which removes all remaining false membranes. Should any of the dorsal spines be found to be diseased they can be readily cleaned off with the bone forceps or periostotome. No muscular or other sound tissue is to be removed *en masse*, as this leaves a blemish and further exposes the dorsal spines to further injuries. Where both sides are diseased, it is best to select for the incision that side on which the enlargement is greatest, and from this pass the seton through to the opposite side. Sometimes but one of these will be required; then again, where the sinuses run forward and downward toward the cervical vertebræ, as many as two or three may be needed to give proper drainage to the cavities.

The object of this operation is to change into one healthy sore what was previously a mass of suppurating flesh, permeated by many fistulous canals. After thorough irrigation of the cavity with carbolized water, a pledget of oakum or absorbent cotton is gently packed into it, the edges of the wound are now brought together by a couple of interrupted sutures to hold the pledget in position, and the operation is complete. The after treatment is quite simple. Within 48 hours after the operation, the sutures and pledget are removed; the cavity is again thoroughly irrigated with carbolized water, and when dry is dressed with carbolized oil. I have never found it necessary to keep the edges of the wound sutured, as this has a tendency to retard the free flow of pus; the wound will gradually close up and leave no blemish without them.

In treating wounds of this kind absolute cleanliness must be observed. If in summer, washing once or twice a day with warm water and castile soap must be done. When dry the parts may be anointed with carbolized oil, 1:30 is strong enough. In winter washing should be done but seldom or not at all, as by the chilling influence of the air healing is retarded. Pure carbolized adepis or lanolin is then the best dressing to use over the entire diseased parts. In summer I use no compress or covering of any kind, save a piece of muslin sheeting saturated in the oil and laid over the parts to keep flies away. In winter a light woolen blanket, placed over the withers, serves to protect the wound from the cold.

To sum up.—The great *desideratum* in treating fistulous withers is (a) to make one common sore of the entire diseased tissue with a good dependent opening for the discharge of pus. (b) After the operation, let the parts severely alone; do not probe or handle the parts needlessly, as by so doing you interfere with the healing process. (c) Feed the animal well; because an animal in good condition makes a much better and quicker recovery than one in poor flesh.

The time required for the entire healing of a fistula under this method of treatment will vary, some healing in from three to four weeks, and some where the healing will require six to eight weeks.

Recurrence.—Where the operation has been properly performed and the animal not put to work too soon afterwards, I find recurrence to be very rare.

INVERSION OF THE UTERUS.

BY E. S. FRY, M.D.C., ASSISTANT STATE VETERINARIAN, NAPERVILLE, ILL.

A Paper read before the Illinois State Veterinary Medical Association, Nov. 19, 1896.

This disease or accident, as I may term it, is liable to occur in all domesticated animals, and has been observed in animals kept in houses and stables, as well as in those roaming about at liberty, although history will give us, and I find in my own experience, that ruminants are most liable to this accident, the cow coming first, then the sheep and goat; the mare is less frequently affected, and the sow and bitch perhaps not so often as the mare. This accident may take place in two forms, viz., partial or complete inversion of the uterus. In the partial or incomplete inversion there may be nothing seen externally, for in this case the cornu or horn of the uterus is not involved, but even may be partially inverted, and an exploration with the hand alone reveals the existence of the accident. Or, if the animal is lying, and especially if the floor is sloping backwards, the uterus appears as a round tumor between the labia of the vulva. In the complete form of inversion we have prolapsus of a portion of the vagina. This inversion is recognized also in two forms or degrees, according as there is inversion of the body of the uterus, or inversion of the cornu as well. If both cornua are completely inverted, they terminate inferiorly in the form of a cone or pear shape, and if only one cornu is involved it will readily be recognized, which is then deviated to the right or left of the vertical direction of the body of the organ, according as it is one or the other of these parts.

Causes.—The causes of this disease or accident are not well understood; hence it is difficult for me to ascertain what this cause is or may be; but in order that this inversion can take place it is essential that the os uteri be more or less dilated. Consequently the accident is only observed in breeding animals, and either during or soon after parturition. Steel claims that it results from excessive spasmodic contractions of the uterine walls, non-contractions of the os uteri *post partum*, or adhesions of the fœtal membranes to the walls of the uterus, or that it is especially frequent in animals in a state of debility. Prof. McIntosh claims that the immediate cause of inversion is relaxation of the ligaments of that organ, whose duty it is to retain it in its position. Fleming says a flaccid, non-contracted uterus after birth, with a weak cervix and dilated os, and relaxed broad ligaments, we should certainly look upon as a predisposing condition; and this is most likely to be present in lymphatic animals, or those suffering from atony, brought about by debility through disease, or bad or insufficient food, or exposure to weather. Others claim that the accident occurs only in animals of a plethoric or lymphatic temperament and their consequent laxity of tissue; and it is often the case that cows which are soft, and kept on food that is better suited for the production of milk than flesh, are most frequent subjects of inversion. In my own experience I have noticed that when these spasmodic contractions of the uterus (called labor pains) take place, there is some cause of irritation in the operation, and while the sympathetic nerves are in all probability those which are most concerned in the uterine contractions, as they are the motor nerves of the organ, their influence is called forth by this irritation. The physiology of parturition teaches us that the expulsive force by which parturition is effected resides in the unstriped muscular fibres of the uterus, which cause the organ to contract in a rhythmical and somewhat peristaltic manner, the contractions of the abdominal muscles and diaphragm being merely auxiliary, and as parturition progresses, and the separation between the uterus and fœtus increases during each regular pain, the whole of the uterus contracts, though the fundus does so most energetically, the longitudinal muscular fibres of the organ being more particularly brought into play. The cornua likewise contract, and are shortened through the action of the longitudinal fibres, and are brought nearer the body of the uterus, which is also shortened; and as this shortening is always taking place in the direction of the cervix, it is here that the sum total of the expelling force is centred. It is this force, commencing to operate at the fundus of the organ, for the extrusion of the fœtus. We find that the thorax and shoulders of the fœtus, when they arrive at the inlet of the pelvis, and as they form the deepest and most difficult part of the young creature's body, the contractions which ensue for its expulsion are most powerful and continuous, in order to impel it slowly towards the outlet. Now, as this is done, the space increases between the fundus of the uterus and the body of the fœtus (as mentioned before), and to expel the croup these contractions are still powerful and continuous, and when the circular muscular fibres do not contract in proportion to what the longitudinal fibres do inversion is inevitable.

Treatment.—In treating inversion of the uterus the first step necessary is to combat the local symptoms. Should the fœtal membranes still be adherent to the uterine surface, they must be carefully removed. If there are any torn or gangrenous portions of mucous membrane they are also to be excised in the same manner. If the uterus is torn it may be necessary to close the wound by sutures. When this is done the uterus should be cleansed from all foreign matters adhering to its surface, which may be effected by means of a soft sponge or cloth, the fluid employed being either warm water, warm water and milk, or even warm fresh milk alone. And last, but not least, the antiseptics, which are a very important factor in this operation (creolin preferred). Have the animal in a standing position if possible. If you have to reduce it in a recumbent position, place the animal on its back, and as soon as it is returned into the abdominal cavity turn the animal on its side. Alluding to the standing position, when the preliminary measures are done, ready for the reduction or reposition of the uterus, saturate completely the entire mass with cotton-seed oil; then put a cloth or towel well moistened, held by two assistants, under the uterus, so that the organ may be lifted as high as the vulva. By doing so there is neither traction nor compression on the mass, and it allows the operator more freedom, and at the same time assists its reposition. Then, with well-oiled hands and arms and closed fists, seek for the largest cornu, seize it by the fundus, and reduce this by pushing it upward and inward. Great care is necessary in exerting the pressure, which should not be applied while the animal is straining. During expulsive efforts, the operator must be content to wait, merely keeping the parts where he has carried them, until the straining has ceased. The pressure must be steady and well directed, so as not to bruise or lacerate the organ. When one portion is gotten within the vulva, it is held there with one hand while the other hand manipulates the next part to be returned. If there be partial inversion of the vagina, the best method is to return first the parts of the organ nearest the vulva, and not act directly on the fundus of the uterus until the greater portion has been replaced into the pelvis. When the uterus has been placed into the abdominal cavity, the operator has then to ascertain if it is properly disposed. It is, therefore, necessary that the hand of the operator should carefully examine every part of the interior of the uterus, and if any abnormal folds of the mucous membrane are encountered they must be gently smoothed down or adjusted. When this is accomplished the straining ceases. It is generally advisable to keep the hand in the uterus and employ gentle manipulations around the cervix for a short time until the latter begins to contract freely. Then raise the hind parts of the animal as high as possible, and the work is completed.

In regard to using a truss or pessary, I never had occasion to employ them in my practice, and I have had a great deal of experience with this accident in cows and mares. The after-treatment consists in stimulants and proper dieting. Amputation of the uterus can be done successfully; but I have not had occasion to perform metrotomy.

HORSES IN THE ARMY.—The United States army at present possesses 6004 cavalry and artillery horses, 238 team horses and 3082 mules. During the past year 873 cavalry horses and 86 artillery horses were purchased at an average cost for cavalry horses of $130 each, and for the artillery horses of $149 each.

VIVISECTION IN THE DISTRICT OF COLUMBIA.

SENATE BILL 1552.

FOR THE FURTHER PREVENTION OF CRUELTY TO ANIMALS IN THE DISTRICT OF COLUMBIA.*

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter no person shall perform on a living vertebrate animal any experiment calculated to give pain to such animal, except subject to the restrictions hereinafter prescribed. Any person performing, or taking part in performing, any experiment calculated to give pain, in contravention of this Act, shall be guilty of an offense against this Act, and shall, if it be the first offense, be liable to a penalty not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable, at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars, or to imprisonment for a period not exceeding six months.

SEC. 2. That the following restrictions are imposed by this Act with respect to the performance on any living vertebrate animal of an experiment calculated to give pain to such animal; that is to say:

(a) The experiment must be performed with a view to the advancement by new discovery of physiological knowledge, or of knowledge which will be useful for saving or prolonging life or alleviating suffering; and

(b) The experiment must be performed by a person holding such license from the Commissioners of the District of Columbia as in this Act mentioned, or by a duly authorized officer of the Government of the United States or of the District of Columbia; and

(c) The animal must, during the whole of the experiment, be completely under the influence of ether or chloroform sufficiently to prevent the animal from feeling pain; excepting only that in so called inoculation experiments, or tests of drugs or medicines, the animal need not be anæsthetized nor killed afterwards; nor in tests of surgical procedure need animals be kept completely anæsthetized during the process of recovery from the surgical operation. Otherwise than this, the animal must be kept from pain during all experiments; and,

(d) The animal must, if the pain is likely to continue after the effect of the anæsthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anæsthetic which has been administered; and

(e) No experiment shall be made upon any living creature, calculated to give pain to such creature, in any of the public schools of the District of Columbia; provided as follows, that is to say:

First. Experiments may be performed under the foregoing provisions as to the use of anæsthetics by a person giving illustrations of lectures in medical schools, hospitals, or colleges, on such certificate being given as in this Act hereafter mentioned, that the proposed experiments are absolutely necessary for the due instruction of the persons to whom such lectures are given, with a view to their acquiring physiological knowledge or knowledge which will be useful to them for saving or prolonging life or alleviating suffering;

Second, The substance known as urari, or curare, shall not, for the purposes of this Act, be deemed to be an anæsthetic; and

Third. Notwithstanding anything in this Act contained, no experiment calculated to give pain shall be performed on a dog or cat, except upon such certificate being given as in this Act mentioned, stating, in addition to the statements hereinbefore required to be made in such certificate, that for reasons specified in the certificate the object of the experiment will be necessarily frustrated unless it is performed on an animal similar in constitution and habits to a cat or dog, and no other animal is available for such experiment; and an experiment calculated to give pain shall not be performed on any horse, ass, or mule, except on such certificate being given as in this Act mentioned, that the object of the experiment will be necessarily frustrated unless it is performed on a horse, ass, or mule, and that no other animal is available for such purpose; and

---

* As favorably reported to the Senate May 26, 1896, by the Committee on the District of Columbia.

Fourth. Any exhibition to the general public, whether admission be on payment of money or gratuitous, of experiments on living animals, calculated to give pain, shall be illegal.

Any person performing or aiding in performing such experiment shall be deemed to be guilty of an offense against this Act, and shall, if it be the first offense, be liable to a penalty not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable, at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars or to imprisonment not exceeding six months; and any person publishing any notice of any such intended exhibition by advertisement in a newspaper, placard, or otherwise, shall be liable to a penalty not exceeding ten dollars.

A person punished for an offense under this section shall not for the same offense be punishable under any other section of this Act.

SEC. 3. That the Commissioners of the District may insert, as a condition of granting any license, a provision in such licensee, that the place in which any such experiment is to be performed by the licensee is to be registered in such manner as the said Commissioners may from time to time by any general or special order direct: *Provided*, That every place for the performance of experimenis for the purpose of instruction shall be approved by the said Commissioners, and shall be registered in such manner as the said Commissioners may from time to time by any general or special order direct.

SEC. 4. That the Commissioners of the District, upon application as hereinafter prescribed, may license any person whom they may think qualified to hold a license to perform experiments under this Act. *Provided* only that a license shall not be granted to any person under the age of twenty-five years, unless he be a graduate from a medical college, duly authorized to practice medicine in the District of Columbia.

SEC. 5. That the Commissioners of the District may direct any person performing experiments under this Act from time to time to make reports to them of the methods employed and the results of such experiments, in such form and with such details as the said Commissioners may require.

SEC. 6. That the President of the United States shall cause all places where experiments on living vertebrate animals are carried on in the District of Columbia to be from time to time visited and inspected without previous notice, for the purpose of securing compliance with the provisions of this Act, and to that end shall appoint four inspectors, who shall serve without compensation, and who shall have authority to visit and inspect the places aforesaid, and who shall report to the President of the United States from time to time the results of their observations therein, which shall be made public by him.

SEC. 7. That any application for a license under this Act, and for a certificate to be given as in this Act mentioned, must be signed by three physicians duly licensed to practice and actually engaged in practicing medicine in the District of Columbia, and also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery in the medical department of any duly established and reliable school or college in the District of Columbia: *Provided*, That when any person applying for a certificate under this Act is himself one of the persons authorized to sign such certificate, the signature of some other of such persons shall be substituted for the signature of the applicant.

A certificate under this section may be given for such time or for such series of experiments as the persons signing the certificate may think expedient.

A copy of any certificate under this section shall be forwarded by the applicant to the Commissioners of the District, but shall not be available until one week after a copy has been so forwarded.

The Commissioners of the District may at any time disallow or suspend any certificate given under this section.

SEC. 8. That the powers conferred by this Act of granting a license or giving a certificate for the performance of an experiment on living animals may be exercised by an order in writing, under the hand of any judge of a court of record having criminal jurisdiction in the District, in a case where such judge is satisfied that it is essential for the purposes of justice in a crimimal case to make such experiment.

LETTER OF DR. C. W. DABNEY, JR.

United States Department of Agriculture,
Office of the Secretary,
Washington, D. C., May 16, 1896.

Hon. James McMillan, Chairman Committee on District of Columbia, United States Senate :

Dear Senator : I have the honor to invite your attention to certain provisions of the bill S. 1552 and of a substitute which I am informed the Committee on the District of Columbia has decided to report favorably. The bill is entitled "A bill for the further prevention of cruelty to animals in the District of Columbia." The principal purpose of the bill as disclosed by its several sections is to restrict and prohibit those experiments upon animals without which it is impossible to obtain the facts required for the advancement of the biological sciences, and particularly for understanding the nature of disease and discovering the best means for its prevention and cure. As the Bureau of Animal Industry of this Department is charged by law with the duty of investigating and controlling animal diseases, and as it has made and is making more extensive investigations of said diseases than any other institution in the United States, the work of said bureau would be directly and seriously affected by legislation such as is proposed in this measure. The bill, while ostensibly local legislation, would affect principally the work of the Executive Departments, and more particularly the scientific investigations of the Department of Agriculture.

1. The bill provides that hereafter no person shall perform on a living animal any experiment calculated to give pain to such animal, and it makes any person guilty of an offense who performs or takes part in any such experiment which in any way contravenes the provisions of this bill, and for such offense, if the first, he is liable to the excessive penalty of $150 fine, or if the second offense he is liable to a fine of $300 or to imprisonment for a period not exceeding six months. These extreme penalties would discourage investigators, they would cause hesitation and delay in the performance of necessary experiments, for no one would enter upon a series of researches until he had satisfied himself that he could carry them through without even a technical violation of the act, and that he could satisfy even unfriendly inspectors that there was no technical violation. Such hesitation and delay is fatal to experimental work of the character performed in this department. It often requires months, sometimes years, to find an outbreak of disease of the right type, and with the affected animals at the proper stage, to yield results to the investigator. If it is a contagious disease, the experimental animals must be exposed to or inoculated with the liquid excretions or tissues of the affected individual ; and this must be done under a variety of conditions. Such material is perishable and when found must be used at once ; the experiments for which it is suitable must be immediately planned and executed, otherwise the valuable material is lost ; hence the desirability of leaving investigators free from unnecessary restrictions and of encouraging them to their best efforts by recognizing their valuable contributions to the cause of humanity. The effect of this section would be to place experimentation upon animals under the ban of the law, to put a stigma upon it, and to cause those engaged in such researches to expend a large part of their energy and ability to avoid infraction of the numerous restrictions.

2. It is provided in section 2, paragraph a, that such experiment must be performed with a view to the advancement *by new discovery* of physiological knowledge, or of knowledge which will be useful for saving or prolonging life or alleviating suffering. That is to say, it forbids all experimentation to confirm the results obtained by others, or to determine whether their results are exactly accurate, or whether such conclusions apply under the conditions which obtain in this country. This provision at once prohibits a large part of the necessary experimental work of this department and would seriously cripple the remainder. Every experiment becomes an offense which does not lead to an immediate practical result. It so happens, however, that no one experiment can give such results except in extraordinary cases. Science is built up by degrees. We progress a step at a time, and many experiments must be made to determine the facts in the case before we can foresee the results. If the experimenter must stop to consider whether he can demonstrate to the satisfaction of a court that each individual experiment was "performed with a view to the advancement by new discovery of physiological knowledge, or of knowledge

which will be useful for saving or prolonging life or alleviating suffering," it is not likely that he will accomplish much by his work.

3. "The experiment must be performed by a person holding such license from the Commissioners of the District of Columbia as in this act mentioned." The substitute bill adds the words "or by a duly authorized medical officer of the Government of the United States or of the District of Columbia." The provision in each bill is objectionable. The first-mentioned bill makes the work of this department dependent upon the action of the Commissioners of the District of Columbia and would allow these Commissioners to dictate as to the persons who should be employed in this scientific work. The substitute bill allows experiments to be performed by a duly authorized medical officer of the Government of the United States without license. This would still exclude a large proportion of our men engaged in experimental work, who, while graduates in science, and perfectly competent, could not be considered medical officers. It appears from an examination of the records that some of our best men in the past would not have been allowed to serve under this provision.

4. The bill provides that "notwithstanding anything in this act contained, no experiment calculated to give pain shall be performed on a dog or cat, except upon such certificate being given as in this act mentioned, stating, in addition to the statements hereinbefore required to be made in such certificate, that for reasons specified in the certificate the object of the experiment will be necessarily frustrated unless it is performed on an animal similar in constitution and habits to a cat or a dog, and no other animal is available for such experiment; and an experiment calculated to give pain shall not be performed on any horse, ass, or mule, except on such certificate being given as in this act mentioned; that the object of the experiment will be necessarily frustrated unless it is performed on a horse, ass, or mule, and that no other animal is available for such purpose."

Section 7 provides "that any application for a license under this act, and for a certificate to be given as in this act mentioned, must be signed by three physicians duly licensed to practice and actually engaged in practicing medicine in the District of Columbia, and also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery in the medical department of any duly established reliable school or college in the District of Columbia: *Provided*, That when any person applying for a certificate under this act is himself one of the persons authorized to sign such certificate, the signature of some other of such persons shall be substituted for the signature of the applicant.

* * * * * * * * * *

"A copy of any certificate under this section shall be forwarded by the applicant to the Commissioners of the District, but shall not be available until one week after a copy has been so forwarded.

"The Commissioners of the District may at any time disallow or suspend any certificate given under this section."

These provisions prevent the use of five species of animals in experiments, except upon special certificate being given. The form of this certificate and the manner in which it is to be obtained or given, are indefinite, and it can not be clearly understood from the language of the bill what kind of a certificate is intended. The fact that an application for a certificate must be signed by three physicians, and by a professor in a medical college, makes the work of an Executive Department of the United States Government dependent again in this instance not only upon the Commissioners of the District but upon the action of individuals in the District of Columbia, who have no connection either with the United States Government or the District Government. Such a provision is, I believe, unprecedented in legislation affecting the Executive Departments.

The language quoted makes it plain that a certificate must be given for each experiment, or certainly for each series of experiments made upon any of the animals mentioned. As these certificates are not available until one week after a copy has been forwarded to the Commissioners of the District, experiments upon these animals are practically prohibited. As before explained, experiments can not be planned or performed until the material to be used in such experiments is obtained, and such material being perishable, a delay of a week would lead to its total loss, and thus prevent the experiment being carried out. This refers to experiments with contagious diseases or with animal parasites, which are the principal ones conducted under the direction of the Bureau of Animal Industry.

All investigations concerning the diseases of horses, asses, and mules would practically be stopped by the proposed legislation and the testing of horses with mallein to determine if they are affected with glanders would only be possible after a week's delay to obtain a certificate. Glanders is one of the diseases which it is the duty of the Bureau of Animal Industry, in coöperation with the Commissioners of the District of Columbia, to eradicate from the District. If a suspected horse is found it should be tested at once. A delay of a week gives an opportunity for the escape of the animal from supervision, and is under any circumstances a hardship to the owner as well as a peril to the people and horses exposed to the affected animal. Efforts to control contagious diseases must be prompt and vigorous if they are expected to bring success. Such legislation as is proposed in the bills mentioned would make the eradication of glanders impossible.

5. It is provided in section 4 of the substitute bill that a license shall not be granted to any person under the age of twenty-five years, unless he be a graduate from a medical college, duly authorized to practice medicine in the District of Columbia.

This provision effectually excludes from experimentation any graduate in science under twenty-five years of age, unless he is duly authorized to practice medicine in the District of Columbia. It would at once stop some of the experiments now in progress, and if it had been enforced in past years would have prevented a large proportion of our scientific employees from doing this class of work. Taken in connection with paragraph b of section 2, which provides that experiments must be performed by persons holding a license from the Commissioners of the District, or by a duly authorized medical officer of the Government of the United States or of the District of Columbia, it is readily seen that young men, graduates in zoology, or in other collateral sciences, could not make experiments even if they were competent and in the service of an Executive Department of the Government.

6. The bill also provides that the Commissioners of the District may direct any person performing such experiments under this act from time to time to make reports to them of the result of such experiments, in such form and with such detail as the said Commissioners may require. The substitute bill makes this report cover the methods employed, as well as the results of the experiments. This provision is objectionable, because it makes the employees of an Executive Department subject to the directions of the Commissioners of the District in making their reports. It permits reports to be called for before the investigations are completed, and the official work of these experts might be stopped at any time by a demand from the Commissioners for a report as to the methods being employed and the results of the experiments.

I would respectfully suggest that it is improper, and not in accordance with precedent, for the employees of an Executive Department of the Government to report directly to the Commissioners of the District. Their report should be made to the head of the Department, and if any report is to be made to the commissioners it should be made by, or transmitted through the head of the Department. Even this would be objectionable, as the work of the Department should not in any way be subject to or dependent upon the local authorities.

7. It is provided in section 6 "that the Commissioners of the District shall cause all registered places to be from time to time visited by inspectors, without previous notice, for the purpose of securing compliance with the provisions of this act, and shall appoint and authorize an agent of the Washington Humane Society to make such inspection, and may also appoint such special inspectors as they may think fit, either permanently or temporarily, who may be willing to act as such inspectors gratuitously."

The substitute bill provides "that the President of the United States shall cause all places where experiments on living vertebrate animals are carried on in the District of Columbia to be from time to time visited and inspected, without previous notice, for the purpose of securing compliance with the provisions of this act, and to that end shall appoint four inspectors, who shall serve without compensation, and who shall have authority to visit and inspect the places aforesaid, and who shall report to the President of the United States from time to time the results of their observations therein, which shall be made public by him."

It must be plain that the results of all these limitations and restrictions and of this espionage will be the prevention of scientific research rather than its regulation. As long as this Department is directed by Congress to make investigations of animal diseases, and to provide for their suppression and control, the Department should be left free to carry on such work in such manner as may seem best to the Secretary of Agriculture in order to attain the end in view. The Department must always be under the direction of responsible officers who may be called upon by the President at any time for information, and a board of inspection composed of persons not in the Government service and who serve gratuitously is not needed and would not be in the interest of efficient service.

8. An apparent concession is made in section 2, paragraph c, which provides "that in so-called inoculation experiments or tests of drugs or medicines, the animal need not be anæsthetized nor killed afterward, nor in tests of surgical procedure need animals be kept completely anæsthetized during the process of recovery from the surgical operation." This concession is, however, apparent rather than real. The investigator remains subject to all the other limitations of the bill: (1) If not a duly authorized medical officer of the Government of the United States or of the District of Columbia, he must first obtain a license (sec. 2, b.) (2) His application for a license must be signed by three physicians duly licensed to practice medicine and actually engaged in practicing medicine in the District of Columbia, also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery, in the medical department of any duly established reliable school or college in the District of Columbia (sec. 7). (3) The Commissioners may require the place where the experiments are made to be registered (sec. 3). (4) If under twenty-five years of age, and not duly authorized to practice medicine in the District of Columbia, he cannot obtain a license (sec. 4). (5) He must, if authorized to experiment at all, confine his experiments to the advancement by *new discovery* of physiological knowledge or of knowledge which will be useful for saving or prolonging life or alleviating suffering (sec. 2, a). (6) If the experiment is to be made upon a dog, cat, horse, ass, or mule, a certificate must be given (it is not specified by whom) stating in addition to certain other statements that for specified reasons the object of the experiment will be necessarily frustrated unless it is performed on an animal similar in constitution to a cat, dog, horse, ass, or mule and that no other animal is available for such purpose (sec. 2, par. e, 3d part). (7) Any application "for a certificate to be given as in this act mentioned must be signed by three physicians duly licensed to practice and actually engaged in practicing medicine in the District of Columbia, and also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery in the medical department of any duly established reliable school or college in the District of Columbia: *Provided*, That when any person applying for a certificate under this act is himself one of the persons authorized to sign such certificate, the signature of some other of such persons shall be substituted for the signature of the applicant." (8) Such certificate shall not be available until one week after a copy has been forwarded to the Commissioners of the District (sec. 7). (It is not stated to whom the application for this certificate shall be made.) (9) The investigator must hold himself ready to report at any time to the Commissioners of the District both the methods employed and the results of the experiments in such form and with such details as the said Commissioners may require (sec. 5). It makes no difference how premature the report may be, or how damaging to the investigator to publish it before the results are completed, there is no recourse. (10) The investigator, his animals, methods and experiments are to be subject to the constant inspection and espionage of four inspectors to be appointed by the President, who shall serve without compensation, and who shall report to the President the results of their observations (sec. 6).

It can hardly be supposed that a scientific man could master all of these requirements and limitations of the law without embarrassment and injury to his work, or that he could conduct a series of experiments to a successful issue without contravening some of them and making himself liable to the extreme penalties provided for such an offense. The assertion that the effect of either the original bill or the substitute will be simply to regulate experiments and prevent abuses are absurd in the light of an analysis of the provisions. The effect will be practically prohibitive, and there is good reason to believe that this is the result aimed at by those who drafted the bills.

It appears that this bill, S. 1552, was formulated by the anti-vivisection committee of the Washington Humane Society (Annual Report, 1895, p. 24) and I am informed that a substitute bill has more recently been proposed by the said anti-vivisection committee. An examination of the proposed substitute does not, however, disclose any material modification of the provisions existing in the original bill. Both have evidently been drawn by persons hostile to scientific investigations which must be made through experimentation upon animals. The sentiment of the society which procured the drafting of these bills is well summarized in the report of its president for the year 1894. He said:

"The subject of vivisection [experiments upon animals] has been frequently before your executive committee during the past year, and but one sentiment has been expressed, viz., that of utter abhorrence and condemnation of the inhuman practice which, according to the oft-expressed opinion of the best physicians and surgeons, is of no practical value to science or medicine." (P. 18.)

It is not surprising that people holding such views should endeavor to graft them upon the legislation of the country, and we must bear in mind the fact that those who drafted these bills are hostile to experimentation and desire to abolish rather than to regulate it.

The investigations which the Bureau of Animal Industry has made have been so successful as to attract the attention of the scientific world, and they have required constant experimentation upon animals. Some of these experiments have been painful to the animals operated upon, but they have been in charge of scientific and humane persons who have exerted themselves to prevent any unnecessary suffering. Such experiments which are intended to supply the knowledge required for protecting our domestic animals from disease and for securing a food supply from them uncontaminated by disease, and which also contribute to the prevention and cure of human maladies, are less subject to the charge of cruelty, even though they cause pain, than are the ordinary practices of dishorning, emasculation, branding and slaughtering, all of which are countenanced for economic reasons and cause more pain than do scientific experiments. So long as we admit that an animal may be caused to suffer the intense pain of castration in order that it may be more economically raised and better suited for the service of man or for the production of edible meat, so long as we permit millions of delicate calves to be burned with a red-hot iron upon their sensitive skins in order that they may be identified, and so long as we admit that animals may be killed by painful processes to supply us with food, it is inconsistent to say that they can not be used in experiments necessary for the advancement of knowledge, the relief of suffering, and the saving of property and life,

The first investigations of this kind which this Department was directed by Congress to make related to the diseases of swine, and these investigations have been continued until those diseases which caused the principal losses are well understood and can be controlled by the application of proper measures.

The Bureau of Animal Industry was established principally to avert the great danger which threatened our cattle industry from the existence on our territory of that cattle plague known as the contagious pleuro-pneumonia of bovine animals. Other countries had struggled with it in vain, but it had never up to that time been eradicated from any country in which it had gained a considerable distribution. The nature of the disease and the best methods of controlling it were imperfectly understood. The experiments made here upon animals gave sufficient information, however, to enable those charged with the work to mark out a systematic and scientific plan of operations, which led to the complete eradication of the disease in less than five years. Although four years have passed since this work was completed, the predictions of the scientists have been fulfilled to the letter, and no cases of the disease have been found during that time. Previous to this work being undertaken the disease had existed constantly and extensively for more than forty years, and many persons had become so accustomed to it that they freely predicted its immediate reappearance even if it was stamped out.

An illustration of the absolute necessity of experiments upon animals to settle contested questions relating to disease may be drawn from the existing restrictions of the British Government on the American cattle trade. Although there has been no pleuro-pneumonia in this country for over four years, the British inspectors frequently condemn our cattle as being affected with that disease. The American inspectors and many European veterinarians hold that the disease actually discovered is ordinary pneumonia arising from exposure during the ocean voyage. How then can this difference of opinion between the British and American officers be settled? Not by clinical observation, not by discussion, not by diplomacy, for all of these have been tried. A scientific and incontestable demonstration could be made by exposing healthy cattle to those said to be affected with contagious pleuro-pneumonia. This would be a final and unanswerable test, but no such test can be secured. They have limited experimentation upon animals in Great Britain by law. Objections have been raised to such an experiment, and this question cannot be brought to a final issue. If the bill under discussion should unfortunately become a law, an experiment could not be made at the seat of the United States Government to settle this important question, even shonld it become possible for other reasons to make the experiment here. The experiment would be calculated to give pain; it would not be an inoculation experiment, or a surgical procedure, and, consequently it would be necessary, according to this bill, to keep the animals in the experiment, say twenty head of cattle, completely under the influence of ether or chloroform for the three or four weeks during which the animals might feel more or less pain. Such a requirement is absurd and impossible of fulfillment.

This is not an unusual or overdrawn case. It is only an illustration of contested or unsolved questions frequently coming before this department for solution, and which it is of the greatest importance to the agricultural industry to have settled reliably and permanently.

Another great work which the Bureau has done by experimenting upon animals is the elucidation of the nature, the mode of dissemination, and the means of preventing the disease known as Texas fever of cattle. This disease was causing enormous losses to farmers by death of their stock, was demoralizing the cattle industry of a number of Western States and Territories, and was causing such fatality among cattle en route to foreign countries that the propriety of admitting our animals was questioned, and insurance during the summer months was advanced to 10 per cent. of the value of the animals. Now all of this has been changed. Outbreaks of Texas fever in this country are rare and unimportant, and the insurance on export cattle has been reduced to 1 per cent. or less.

These are only a small part of the results accomplished by the Bureau of Animal Industry through its kind of experimentation. Such researches are difficult, and they are only successfully conducted where the conditions are favorable and where the investigators are stimulated by friendly encouragement and support. It may be safely said that under hostile legislation, classifying such experiments as a form of cruelty, surrounding them with numerous limitations and restrictions, subjecting the experimenter to the espionage of intolerant inspectors and threatening him with excessive penalties for infractons of any of the many requirements, the success which we now point to with pride would not have been achieved.

There are still many problems relating to animal diseases which must be investigated and solved by this class of experiments before the animal industry can yield to our farmers an adequate return. Agriculture demands and should receive all the assistance which can be given to it by the most advanced scientific methods employed under the most favorable conditions. We find to-day many of the dairy herds affected to the extent of 70 to 90 per cent. with tuberculosis; we find the swine fed upon the refuse milk of such dairies affected with the same disease, and we have every reason to believe that much of the tuberculosis in people comes from the same source. Is the Bureau of Animal Industry to be interrupted and hampered in its study of this and other diseases by legislation alleged to be for the prevention of cruelty to animals when the promoters of this legislation have failed to show that any improper experimentation has been conducted or is likely to be conducted in the District of Columbia?

Are the vital interests of agriculture in the whole United States to be made subservient to the demands of an over-zealous and intolerant local society, which appears incapable of taking a broad and liberal view of this subject? Are we prepared, in order to protect a few dogs, cats, and other animals, from sufferings less than these animals usually undergo when they die a so-called natural death, to have legislation enacted which would withdraw the efforts of the scientists who are working for the relief of the hundreds of thousands of men, women, and children who now die annually in this country from preventable diseases? Are the millions of animals which suffer and die from animal plagues everyyear less worthy of attention than the few which die with less pain in the research laboratory? These qnestions appear not to have occurred to those who are advocating this legislation. The effort to limit, obstruct, and prohibit such experiments, although it originates from humane societies, is not in the cause of true humanity. It ignores the interests and sufferings of mankind and would perpetuate these sufferings to carry into effect what is clearly an erroneous view of what constitutes kindness and humanity to the lower animals.

If the legislation already enacted for the prevention of cruelty to animals in the District of Columbia is shown to be insufficient for this purpose, and additional legislation is thought desirable, this legislation should be so framed as not to affect the Executive Departments of the United States Government, and under no circumstances should local legislation be allowed to interfere with, demoralize or prohibit the important scientific investigations which are specifically authorized by Congress for the benefit of the great agricultural industry of the whole country.

Agriculture at this time needs the encouragement and assistance which the experimental work of the Bureau of Animal Industry is bringing to it. Much has already been accomplished, but even greater results are promised in the near future. It is an age of science and progress, and all other industries are rapidly advancing through scientific research. Should not our farmers receive all possible aid from the same source?

Very respectfully,

CHAS. W. DABNEY, JR., *Acting Secretary.*

REPORTS OF CASES.

THE GOAT CANNOT ALWAYS EAT SHOW BILLS WITH IMPUNITY.

By W. C. SIEGMUND, D.V.S., Baltimore, Md.

On the morning of January 15th, I was called in great haste to see a sick goat. I found on my arrival at the party's house one goat dead and another suffering intense abdominal pain. Hasty observation revealed symptoms of arsenical poisoning, and I at once administered such antidotes as I found on hand in the nearest drug-store, iron rust and magnesium sulphate, in solution, following this by the whites of eggs. The symptoms meanwhile had become more pronounced, pain most excruciating, manifested by most pitiful cries and restlessness of the poor brute. Pulse was imperceptible. I attempted to take the temperature, but the animal gave evidence of such pain upon the attempt to press the thermometer into rectum, that I gave it up. Having sent for some apomorphia I set about to prepare my hypodermic-syringe and needle, so as to inject the drug as soon as it came, when the animal died.

I performed autopsy on both carcasses, and found acute gastro-enteritis in both animals, involving the entire digestive tracts, to such an extent as to have blood oozing from the mucous membranes. The ingesta of the stomachs contained small particles of a greenish mass, which I looked upon as Paris green. I preserved some of it in a bottle for chemical examination. I then proceeded to search the premises for traces of the poison and found a scrap of "green paper" upon which the goats had been gnawing in the wood pile of the owner, and which paper is the remnant of a Christmas tree ornament. The city chemist kindly made an analysis of the ingesta and green paper and found them to be of one and the same coloring matter, which, unfortunately for the two goats, is the arsenite and acetate of copper, or Paris green.

The case is also interesting from the fact that the owner has a tame sheep and another goat, neither of which were in any way affected, simply because the other two were "cock of the walk" and always chased the other two animals away.

Inclosed you will please find a small scrap of the paper that did the mischief. Both animals were fed plentifully and were in good condition.

REMOVAL OF CLITORIS FOR VICIOUSNESS.

By S. H. Johnston, V. S., Carroll, Iowa.

A mare was brought to me, which was very vicious, and seemed to be continually suffering from œstrum. Removed the clitoris about three months ago; the owner informs me she is perfectly docile and can be driven by a child.

ODONTOID.

By S. H. Johnston, V. S., Carroll, Iowa.

A three-year old colt was suffering from what looked to be a canker of the ear; owner informed me that a swelling appeared when about three months old which developed into a running sore and had been treated by caustics, but got no better. After making an incision down on the annular cartilage discovered what proved to be a well developed tooth. After abstracting, the colt made a rapid recovery.

TUBERCULOSIS IN MASSACHUSETTS.

Apropos of the recent changes in the policy of Massachusetts in dealing with tuberculosis in that State—from the tuberculin test to the physical examination (except by request)—we print that portion of the Governor's message bearing upon this subject, which will give the reader a clearer idea of the policy to be in force under the reorganized Cattle Commission:

"I commend to the most careful consideration of your honorable bodies the question of the eradication or limitation of this disease in cattle. The conditions affecting its presence in cattle and its transmission to man are to be determined by scientific investigation, and in the countries of Europe, as well as in our own land, are better understood than when the danger was first realized. There can be no doubt that in the advanced stage of the disease, especially when it has attacked the udder, the milk as well as the meat of the animal so diseased may convey the tubercle bacillus, and therefore become a grave danger when taken into the human system. If sterilization were universal, the danger from milk so affected would be removed. In the earlier stages of the disease, the danger is regarded by many competent authorities as slight, but it must be remembered that the tendency of the disease is constantly to advance. The existing law restricts the use of tuberculin to cattle brought into the commonwealth from any point without its limits, and to cattle held at certain quarantine stations, but provides that it may be used, on the consent in writing of the owner, upon animals in any other portion of the State, and upon animals condemned as tuberculous upon physical examination. This restriction expires by limitation on the first of June, 1897. The community is yearly becoming better informed on this subject, and therefore better prepared to adopt measures which shall be inspired neither by an exaggerated alarm on the one hand nor on the other hand by an unreasonable opposition to necessary sanitary precautions. With the co-operation of local boards of health and with the dissemination of accurate information on the subject by the board of agriculture and other agencies, it may be expected that the action of the State will be re-enforced by the normal, healthy pressure of customer upon dealer, in demanding a general improvement in the sanitary condition of dairies, and their immunity from this dread disease through the application of this test, undoubtedly the most reliable yet discovered. Whatever general line cf policy your wisdom may adopt, I ask you to consider two suggestions : Is it right or wise that, as now, the State should pay full value for animals that have reached the most advanced stage of general tuberculosis and udder tuberculosis? Such animals should be sought out by means of a thorough, periodic inspection, and slaughtered as being not only worthless, but a source of danger to the rest of the herd as well as to the community. At present the owner has no motive to check the disease in its earlier stages. If compensation were graded according to the condition of the animal as revealed by autopsy, the owner would have a direct interest in purging his herd of infected animals before they become worthless. Secondly, I think the commissioners should in any event have sufficient means at their disposal to enable them to test with tuberculin all cattle the owners of which request such inspection."

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By W. V. Bieser, D.V.S., New York City.

Glycerin as an Obstetric Help.—Since Pelzer's employment at Frank's suggestion of glycerin for this purpose further trials have substantiated their results, but with the decided drawback of having in some instances caused the death of the patient. Its object was to excite uterine contractions. The author could not believe that under proper precautions glycerin was a deadly remedy; he believes not so much in its water abstracting powers as in its powers to excite contraction of unstripped muscle fibre. He injected only 5 ccm. instead of the large doses of 80 to 100 ccm. and sees that the glycerin only enters the cervical canal below the internal os, and not the uterine cavity, the cervix being the originator of the uterine contractions. Trials made with the remedy in this way gave most brilliant results. Two cases are appended. In one at the end of 40 weeks of pregnancy, in the other at the end of 35 weeks, no signs of uterine contractions had shown themselves. Yet, for certain reasons labor had to be induced especially as live offspring were the prime object. In both cases 5 ccm. used as above described excited potent contractions and led to happy terminations. The author recommends glycerin very highly. —(*Berl. Thierärzt. Woch.*)

Iodine and Iodide of Potash as Antidotes in Purpura Hemorrhagica.—The case in question was that of an old mare, which at the beginning of the treatment was in an almost hopeless state. Tracheotomy had to be performed during the illness to prevent suffocation. For several days no food passed her lips; she was so weak as to be hardly able to be moved to a more hygienic stable. For three days in succession two intratracheal injections of 10 grains of iodine and 50 grains of iodide of potash were given, whereupon quick improvement set in; the mare regained her appetite, the swellings resolved and convalescence set in in a short time.—(*Berl. Thierärzt. Woch.*)

HEMORRHAGIC MENINGITIS IN A COW.—A twelve-year-old cow, well nourished, lost appetite one day, fell down next day and showed upon examination by the author the following clinical picture : The eyes were half closed and had a dull look ; one pupil was contracted, the corneal sensibility was diminished, cutaneous sensibility likewise, although there was no decided anæsthesia ; the induction current caused a very strong reaction ; the forcibly drawn out tongue was immediately drawn in again. Muscular activity, especially in the rear half of the body, was disturbed. The temperature was 40° C., respiration deep but unlabored. Milk secretion was diminished. Next day the pulse was feebler, respiration stertorous, and peristalsis audible ; the paralysis, diminished sensibility, etc., were the same as upon the day previous. On the third day the pulse was very feeble and thready, the heart impulse fluttering, respiration very deep and labored ; the lower halves of both lungs were unaereated, there were friction sounds heard upon expiration. The animal was thereupon slaughtered. Autopsy showed : Liver, spleen, kidneys, gastro-intestinal tract normal. The lungs were attached to the chest wall at their lower borders by fibrinous adhesions ; the pleuræ were thickened, congested, dull, with fibrinous deposits upon their surfaces. The affected portions of both lungs, *i. e.*, the lower half of the right lung and the lower two-thirds of the left lung were wholly airless, solid and juicy, but relatively anæmic. The bronchi and bronchioles were partly filled with bloody serum, partly with reddish foam. The heart and blood were normal. Upon opening the cranium a considerable quantity of yellowish serous fluid exuded, chiefly located in the space between the dura and pia mater. The pia mater was thickened and velvety to the touch. In the left hemisphere in front a broad extravasation, covering nearly the whole surface of the pia mater and extending backward to the olfactory lobes, showed itself. The pia mater, even as far backward as both olfactory lobes, was thickened and hemorrhagic. The ventricles and blood vessels were distended. The parenchyma of the brain was little altered. This condition of affairs in the brain undoubtedly explained the physical symptoms. The cause of the meningitis, traumatism being excluded, was hard to determine. The sudden and marked onset of the symptoms of depression were probably due to the sudden rupture of the ventricles, whose elasticity was, considering the age of the cow, probably markedly impaired.—(*Berl. Thierärzt. Woch.*)

DIPHTHERIA IN A CAT.—Upon January 18th, 1896, a lady sickened with diphtheria in Clifton and died three days later. A cat that had been received into the house on Jan. 4th and had remained in the lady's room all this time was thereupon observed from Jan. 23 on. On Jan. 29th the cat sickened; she vomited, had diarrhœa, swelling of the throat, and yellowish spots upon the mucous membrane of the posterior portion of the buccal cavity. The yellowish areas enlarged until the whole throat was, on Jan. 31st, covered with a yellowish false membrane. The cat died from excessive dyspnœa. Unfortunately, no autopsy or bacterial examination was made; so that it is impossible to state positively whether the cat's sickness was identical with that of its mistress, or whether the cat was the original source of the deceased lady's illness, suppositions which the author considered very plausible, inasmuch as the cat was not observed until after the woman's death, which fact first drew attention to the cat's condition.—(*Berl. Thierärzt. Woch.*)

CONGENITAL TUBERCULOSIS IN CALVES.—K. of Kiel found very frequently besides tubercular peritonitis tuberculosis of the uterus and genital tract in cows. But frequent as was the genital tuberculosis, all the more infrequent was the discovery of tuberculosis in the calves begotten by these mothers, which calves by reason of the mothers being tubercular were slaughtered on the first day before they could partake of the mother's milk. Upon investigation, however, he found congenital tuberculosis to be more frequent than was supposed. While between the years 1887 and 1895 only nine such calves slaughtered in the way aforesaid proved to be tubercular at the autopsy, he found 26 cases of congenital tuberculosis from January to May in the year 1896. Eleven of these showed evidences of tuberculosis in the portal lymphatics and liver, nine besides these evidences, evidences of tuberculosis in other organs; in ten instances various other lymphatics were affected. In the calf most affected, the peritoneum and pleura showed many sharply localized highly reddened nodules, and several diffuse flat granulations (tubercular); one lung showed a calcareous nodule with translucent periphery; tubercular deposits in the portal, bronchial and mediastinal lymphatics as well as in all the peripheral lymphatics, all having calcareous centres with cheesy peripheries; the liver showed many tubercular nodules; the kidney one of small size calcareous, with congested periphery. As regards the infection, the transmission of the materies morbi to the growing ovum is undoubtedly due to the diseased uterus infecting the placenta of the ovum. Hence congenital tuberculosis is not so rare as was supposed. These data are very instructive as furthering our knowledge of tuberculosis.—(*Berl. Thierärzt. Woch.*)

TREATMENT OF FOREIGN BODIES IN THE ŒSOPHAGUS.—A horse had a pill given it which remained, as subsequent examination showed, wedged in the œsophagus. The administration of 0,007 gm. of arecoline hydrobromicum. caused after 15 minutes the foreign body's passage into the stomach. Pilocarpin, according to J., has a similar action. The author therefore recommends the administration of either or both of these remedies when occasion offers.—(*Berl. Thierärzt. Woch.*)

EUCAIN IN OPHTHALMOLOGY.—Eucain is a new anæsthetic; cheaper and less poisonous than cocaine and with less disturbing properties than cocaine. The hydrochlorate of eucain dissolves in water, retaining its anæsthetic properties even after boiling, but, on the contrary, it is only partly soluble in 2 per cent. sublimate solution. V. used it as he did cocaine in 5 per cent. solution. The instillation of eucain causes much more burning than cocaine, each new instillation causing fresh smarting. The anæsthesia sets in in 2 to 3 minutes in the cornea and conjunctiva, diminishes gradually after 8 to 12 minutes and disappears entirely after 15 minutes. The following advantage claimed by the firm (Schering), viz., non-dilation of the pupil, absence of paresis of the muscles of accommodation, did not materialize to any marked extent. With cocaine one had been very long warned that it might cause unnatural dryness of the corneal epithelium owing to the diminution in lid activity caused by the cocaine; eucain does the same to a more marked degree, robbing the cornea and conjunctiva of their protective covering by paresis of the lids and causing in time a total separation of the corneal epithelium from its base. Even sewing the lids together won't prevent this. Hence eucain can't supplant cocaine.—(*Berl. Thierärzt. Woch.*)

ENGLISH REVIEW.

RUPTURE AND DISPLACEMENT OF THE KIDNEYS IN A COLT [*By E. W. Hoare, F.R.C.V.S.*].—A colt, which had always been well, was found unable to get up. The animal was constantly looking at his flanks, and struggling violently. The rectum was full of hard fæces, which were removed with injections. The bladder was empty. No tympanites, excessive sensibility of the loins. The treatment consisted of hot fomentations of the loins, warm drinks and castor oil. The condition of the patient grew worse, the pains increased more and more, soon broke into profuse perspiration, the mucous membranes became of a livid color, and death took place after a few hours. At the post-mortem the kidneys were found softened, the right extensively bruised and its fibrous capsule torn, and both organs loose from their attachments. The surrounding muscles were free from any injury.—(*The Veterinarian.*)

OSTEITIS OF THE TROCHANTER [*By W. M. Scott, M. R. C. V. S.*].—A five-year-old mare had been treated for the last six months, and has at present on the coxo-femoral joint a rather large swelling, hard, like bone, and which is rendered more prominent by the atrophy of the surrounding muscles. There are two fistulous tracts extending towards the joint. Standing up the animal rests her whole weight on the sound leg; the diseased one is flexed and carried in adduction, and sometimes is resting on the toe of the other. In motion, the leg is carried in abduction, carried forward with hesitation; the step is short. Backing is very difficult and turning on one side painful. The animal was destroyed. At the post-mortem, the muscles of the gluteal and crural regions were infiltrated, some of them almost ossified. The superior part of the femur showed a large bony tumor separated from the body of the bone, and kept in place by fibrous adhesions. It looked as if there had been a fracture on the upper part of bone which was healed only by ligamentous union.—(*The Veterinarian.*)

INTRACAPSULAR HÆMORRHAGE OF THE LIVER [*By Mr. J. A. W. Dollar*].—A fifteen-year-old horse is attacked with colic; he drops some fæces, urinates, has an anxious face, the pupils dilated, the gait is stiff; he has muscular twitchings and the body is covered with a sticky perspiration; the mucous membranes are pale, the pulse small and weak, 94 beats; the temperature 37°9 C.; respiration 30, short, loud. The animal walks about in his box and paws; his neck is stretched, his upper lip contracted and turned up. His sight seems impaired. After an injection of morphine, which puts him to sleep for awhile, he suddenly gets up, his pulse rises to 130–140 per minute, his respiration to 30. Temperature cannot be taken. The next day the horse seems better,—pulse, respiration, and temperature are improved; there is slight jaundice. This condition lasted for eleven days, and was followed by sudden death. At the post-mortem there was an intra-abdominal hemorrhage and a marked general jaundice. The bronchial mucous membrane, the intestines, and the kidneys were yellow. The liver weighed fifty-eight pounds. The capsule of the left lobe of the liver was raised by a clot of blood. That of the right lobe was atrophied. Between the capsule and the tissue of the organ there was a large clot of blood weighing six pounds and a half. Upon sections of the liver, interstitial hemorrhages of various dates were found and rendered manifest by ecchymotic spots or bloody extravasations. —(*Veterinarian.*)

METASTATIC LAMINITIS FOLLOWING METRITIS [*By George Green, M.R.C.V.S.*].—A mare that had dropped her colt easily did not clean, and the placenta had to be removed three days after, when symptoms of metritis were becoming manifest. The treatment consisted in hot fomentations to the loins; opium, aconite and belladonna internally; nitrated drinks. Improvement soon appeared, but all of a sudden symptoms of laminitis showed themselves in both fore feet. Hot poultices were applied, linseed oil, with one dose of aconite administered; then blisters to the feet. Mare recovered rapidly.—(*Veterinarian.*)

SOCIETY MEETINGS.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting of the Veterinary Medical Association of New York County was called to order at 8.45 P.M., January 6th, 1897, at the Academy of Medicine, with the President, Dr. Huidekoper, in the chair.

The following members responded to roll-call: Drs. Amling, Bell, C. C. Cattanach, J. S. Cattanach, J. S. Cattanach, Jr., Caulfield, Ellis, Farley, Foy, Gill, Huidekoper, Hanson, Jackson, Loomes, Lellman, Neher, O'Shea, Robertson, Ryder, Sherwood, and Winslow (21).

The minutes of the previous meeting were read and approved.

Report of Board of Censors.—Dr. Gill (Chairman) reported that as the question of the legality of the expulsion of H. Clay Glover from the association had been referred back to the board for their consideration they wish to submit the following suggestions to the meeting, to wit: That the Secretary be authorized to send H. Clay Glover a complete copy of the charges and request him to appear before the board at the next meeting to answer the same. Said notification to be sent by registered letter. Moved and seconded that the report be accepted. Carried.

Reading of Papers.—Dr. Lellman then gave a report of a case of "Polyneuritis of a Dog." Moved by Dr. O'Shea and seconded by Dr. Robertson that a vote of thanks be tendered to Dr. Lellman for his essay.

Dr. Huidekoper then gave a most interesting discourse on "Strains." A discussion followed, which was participated in by Drs. Neher, Robertson, Farley, Gill and others. Moved and seconded that a vote of thanks be tendered Dr. Huidekoper. Carried.

Report of Judiciary Committee.—Dr. O'Shea (Chairman) read the following communication from the association's counsel:

New York, Dec. 19, 1896.

Dr. Rush S. Huidekoper, 154 E. 57th St., City.

Dear Sir:—We beg to thank you for your letter of the 15th enclosing check. We have sent a receipted bill to Dr. Cattanach, as requested. We beg to enclose an affidavit in the Bryant case which Magistrate Cornell said could not be improved upon. We can no doubt adapt it to fill such other cases as may arise. In this connection we may call your attention to the fact that we have serious doubts whether under the provisions of the act of 1895 a person could be held for the commission of misdemeanor for merely operating without registration. Magistrate Cornell intimated that this was his view and that he would probably have to discharge Bryant if it had not been proved that Bryant appended a veterinary title to his name.

It would seem that the only remedy that the act provides for the practising without registration was a civil suit for the recovery of a money penalty for such offense. In view of this we can suggest that it might be advisable in any case where you could prove that the person complained of has assumed a veterinary title—that you should consult with us before proceeding to arrest him.

We are examining the papers in the Benson case and will send you our conclusion in a few days. The question involved is an important one and is not free from difficulties. With reference to the Mulvey case we have no doubt that the registration would be cancelled on proper application being made. Do you wish us to proceed?

Very truly yours,
Van Schaick & Norton.

The affidavit referred to is as follows:

Police Court, City of New York.

The People of the State of New York on the Relation of "The Veterinary Medical Association of New York County," Plaintiff

against

Newton S. Bryant, the name Newton being fictitious, defendant's real name being unknown, Defendant.

City and County of New York, ss:—Rush S. Huidekoper being duly sworn doth depose and say that he is the President of the Medical Association of New York County. That he hereby makes a complaint against the above named Newton S. Bryant, the name Newton being fictitious, said Bryant's first name being unknown to the deponent, and charges said Bryant with the following offenses against the laws and statutes of the State of New York:—

First.—That the said Bryant is practicing veterinary medicine and surgery within the County of New York without being previously registered and legally authorized or licensed by the Regents', and registered as required by the provisions of Chapter 860, sections 171 and 181, of the Laws of 1895, as amended by Chapter 840 of the Laws of 1896. That said Bryant has practised as follows: On or about Oct. 24th, 1896, deponent is informed and believes he operated on five horses in the stables of one John Doyle, of 140 W. 54th Street; that on or about October 10th, 1896, he operated on the horses of one Proctor, at Tattersall's, at 55th Street and Seventh Avenue; that in or about the last week of September, 1896, he operated on the horses belonging to one Frank Work, at his stables, 157 W. 56th Street; that on or about October 10th, 1896, he operated on a number of horses at the stable of Strauss & Hexter, at 1722 Broadway; that on or about Oct. 19th or 20th, 1896, he operated on horses at Tattersall's, at 55th Street and Seventh Avenue.

That said statutes provide in Chapter 860 of the Laws of 1895, Section 184, that any person guilty of violating any of the other provisions of this act not otherwise specifically punished herein shall be guilty of a misdemeanor.

Second.—That said Bryant, without having been authorized to do so legally, appends a veterinary title to his name, assumes and advertises a veterinary title in such a manner as to convey the impression that he is a lawful practitioner of veterinary medicine or of one of its branches. That said Bryant issues and advertises his business by means of a printed circular which deponent has seen and which said Bryant has delivered to various persons known to deponent upon the first page of which is the following inscription, "Dr. N. S. Bryant, Veterinary Dentist."

That Chapter 860 of the Laws of 1895, in Section 184, provides "and any person who shall without having been authorized to do so legally appends any veterinary title to his or her name, or shall assume or advertise any veterinary title in such a manner as to convey the impression that he is a lawful practitioner of veterinary medicine or any or its branches shall be guilty of a misdemeanor."

The Doctor also assured the members of the association that a bill would be introduced by the committee this winter for the exemption from jury duty of veterinary practitioners of New York and Kings Counties.

Moved and seconded that the report be accepted. Carried.

President Huidekoper then reported on the progress of the "Blue Book."

Application for Membership.—An application for honorary membership was submitted as follows:

We hereby propose Prof. Alexander Liautard for honorary membership in the Veterinary Medical Association of New York County, as his life work has been devoted entirely to the elevation and advancement of the veterinary profession in this county.

(Signed) ARTHUR O'SHEA,
J. L. ROBERTSON.
H. D. HANSON.

This was referred by the chair to the Board of Censors.

The Secretary next read the resignation from the association of Thomas Giffen.

Moved and seconded that the report be accepted. Division of votes. Moved and seconded that the matter be laid over till the next meeting. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Secretary.*

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

The annual meeting of this association was held in the rooms of the Baldwin Hotel, San Francisco, Cal., Dec. 9, 1896.

The meeting was called to order by the Secretary, Dr. D. F. Fox, who stated that as the President and Vice-President were both absent it would be necessary to elect a President *pro tem.*, whereupon Dr. H. A. Spencer placed the name of Dr. Thomas Maclay in nomination, and as there were no further nominations Dr. Maclay was unanimously elected.

President *pro tem.* Maclay in the chair.

The roll was called and the following named gentlemen answered to their names: Drs. Maclay, Spencer, Sr., Spencer, Jr., Orvis, Archibald, Faulkner, Robin, Hogarty, Graham, Fox, Fabbi, Forrest, Jackson, and Williams. Visitor, Mr. Gilbert, of San Francisco.

The minutes of the previous meeting were read and approved.

A communication was read from the Pasteur Monument Committee, with an invitation for subscriptions to the fund, which was received and placed on file.

The Secretary's report was read and accepted and placed on file. The Treasurer's report was the next order of business, but as the Treasurer was absent his report was left over until the evening session.

Dr. H. Fabbi presented the name of F. DeBere, as an applicant for membership, and it was referred to the Board of Examiners.

Dr. Archibald made a report of the committee appointed to wait upon or communicate with the Governor of the State in regard to the quarantine districts of Texas fever. The report was accepted and the committee discharged.

He also made a report of the committee appointed to wait upon the Board of Health of San Francisco, with a view of prevailing upon them to try and bring about a more scientific and systematic course of meat and milk inspection in San Francisco. This report was also received and the committee discharged.

The committee appointed to draft an act to be introduced at the coming legislature, made their report. The bill was read and discussed by sections. After several suggestions had been offered, a few minor changes made and the blanks filled in the bill was considered as satisfactory to the association, and further report of the committee was postponed until the evening session.

The next regular order of business was then taken up, which was nomination of officers for the ensuing year. Dr. Maclay offered some objections to being re-elected as a member of the Board of Examiners, but upon the earnest request of the members present he allowed his name to remain in nomination for the above named office. Nominations for the several offices were then proceeded with as follows: For President, Dr. R. A. Archibald, of Oakland; Vice-President, Dr. J. Graham, of Fresno; Secretary, Dr. D. F. Fox, of Sacramento; Treasurer, Dr. C. L. Megowan, of Sacramento. Board of Examiners: Drs. Maclay, Spencer, Sr., M'Collum, Egan and Pierce.

Dr. Maclay moved that inasmuch as there had been but one nominee for each office that the Secretary be directed to cast the ballot for said officers, with the exception of Secretary, who should be elected by acclammation. As there were no objections it was so ordered. The ballot having been cast the President *pro tem.* announced the officers for the ensuing year as above stated and they were thereby declared elected.

New business was next taken up, and the subject matter of inspection of dairy cows was introduced, and it was brought to light that one J. C. C. Price was representing himself to be a qualified practitioner, and by so doing was holding a public position in San Luis Obispo County, that he was also obtaining tuberculin from the Bureau of Animal Industry and charging the persons for whom he was making the tests. Whereupon, Dr. H. A. Spencer introduced the following resolution:

WHEREAS, It having come to the knowledge of this association that one Jos. C. C. Price is representing himself as a qualified veterinary surgeon, and through such representations he has either secured, or pretends to have secured the appointment of stock inspector of San Luis Obispo County, and has represented that he is an appointee of the general government, and is securing pay from the owners for the use of government tuberculin,

Resolved, That by the report of the State Veterinary Medical Board of Examiners, this association is advised that said Jos. C. C. Price is not a qualified veterinary surgeon, and therefore we conceive it our duty to inform the Board of Supervisors of San Luis Obispo County and the Chief of the Bureau of Animal Industry of these facts, and that the Secretary of this association be instructed to write to the said Chief of the Bureau of Animal Industry, and the President of the Board of Supervisors of San Luis Obispo County apprising them of these facts.

The resolution was unanimously adopted and it was so ordered.

The subject matter of qualifications for membership was next taken up. Considerable discussion followed, and it was finally decided that Sec. 1 of Article VII of the by-laws was deficient in the respect that it did not compel all members of the association to abide by the laws of this State in regard to holding a certificate issued by the State Veterinary Medical Board of Examiners.

Dr. Thomas Maclay was appointed as a committee of one to make the proper amendments and to report at the evening meeting.

Upon motion the meeting adjourned until 7 P. M.

The evening session was called to order by the President *pro tem.*, Dr. Maclay, at 7 o'clock P. M. Upon roll-call Drs. Pierce and Megowan answered to their names, they having been absent from the afternoon session.

Installation of officers for the ensuing year was next taken up. Dr. R. A. Archibald, of Oakland, was escorted to the President's chair, and, after a few well chosen remarks, he proceeded with the regular order of business.

The Treasurer, Dr. Pierce, having withdrawn his presence prior to this, the Secretary was called upon to read the Treasurer's report, which he did; the report showed the association to be in a very good financial condition. The report was accepted and placed on file.

A resolution was now introduced providing for the appointment of a committee to wait upon or communicate with the faculty of the Veterinary Department of the University of California, and prescribing its duties; Dr. Thomas Maclay offered a few amendments to the resolution, which were adopted, and the resolution was then adopted as amended, as follows:

WHEREAS, The Veterinary Department of the University of California in the coming year is about to hold final examinations for the purpose of graduating such of its students as are capable of passing said examinations in a creditable manner, and

WHEREAS, We the members of the California Veterinary Medical Association believing it to be to the best interests of the veterinary profession in this State that said final examinations should be conducted by parties not connected with said veterinary college; therefore, be it

Resolved, That the President of this association be and he is hereby authorized and requested to appoint a committee to consist of three members of this organization, whose duty it will be to wait upon or communicate with the faculty of the said veterinary college, with a view of prevailing upon them to select a board of examiners, to consist of five practitioners, who are not in any way connected with said veterinary college, whose duty it will be to conduct said final examinations; and be it further

Resolved, That in case the faculty of said veterinary college ignore or refuse to accede to the request made by this committee, said committee is hereby authorized to wait upon or communicate with the Board of Regents of the State University and the Board of Trustees of the Veterinary Department of the University of California, with a view of prevailing upon them to investigate the manner in which said veterinary college is conducted, and to acquaint them of the necessity of adopting some such proposition as is embodied in these resolutions whereby the honor of the University of California and the veterinary profession in this State may be maintained.

The Board of Examiners now made their report on the name of F. DeBere, as follows:

Mr. President.—Your Board of Examiners to whom was referred the name of F. DeBere for membership in this association, having had same under consideration, beg leave to report unfavorably on said application and want to recommend the rejection of same.

Respectfully submitted.

THOMAS MACLAY, *Chairman.*

The report was accepted and the application rejected.

The committee appointed to amend by-laws now made its report, as follows:

Mr. President.—Your committee of one appointed to submit an amendment to Sec. 1 of Article VII in accordance with opinions expressed during our afternoon session, beg leave to submit the following: Strike out all of Section 1 of Article VII and insert in lieu thereof the following:—Article VII, Section 1. It shall be the duty of the Board of Examiners to examine the applications of those who may apply for membership, provided the applicant presents a license to practice issued by the California State Veterinary Medical Board.

Respectfully submitted.

THOMAS MACLAY, *Committee.*

The report was received and referred to the Board of Directors.

Reading of papers and discussions being now in order, Dr. H. A. Spencer came forward with a most excellent and well prepared paper on "Reports of Cases." * The first portion of the paper was devoted to a few cases, which the essayist termed "Pneumo-Hepatitis." The cases were described in detail and were very interesting to all present. The next case which the essayist described was a case of embolism of the femoral artery, and the last was a case of epilepsy in a bitch. The paper brought out a long, spirited and interesting discussion, in which nearly all of the members present took an active part.

The next essayist called upon was Dr. C. L. Megowan, of Sacramento, who came forward with a most excellently prepared paper on the subject of "Professional Ethics."* He brought out a great many points which should be remembered in every-day practice.

The members paid high compliments to the doctor for the manner in which he had entertained them.

Mr. Green, Chairman of the Legislative Committee of the Dairymen's Association of California, was now shown in and the subject matter of legislation was again taken up. He submitted a bill for consideration which had been under consideration by the Dairymen's Association. The bill was read and considered by sections. After a great many suggestions had been offered and a few changes made, the bill was finally left for the Dairymen's Committee and Dr. Archibald, of the Association, to complete.

The report of the Committee on Legislation was then received and the committee discharged.

Dr. Fox moved that the thanks of the association be extended to Drs. Spencer and Megowan for the most able manner in which they had entertained us during the evening, seconded by Dr. Hogarty, and so ordered.

---

* Will be published in March REVIEW.

The following named gentlemen were then appointed as essayists for the next meeting: Dr. G. F. Faulkner, of Salinas; Dr. J. H. Eddy, of Stockton; Dr. F. W. Skaife, of San Francisco; Dr. F. E. Pierce, of Oakland; and Dr. D. F. Fox, of Sacramento.

There being no further business before the meeting, it adjourned to meet in the Baldwin Hotel, San Francisco, on March 19, 1897. D. F. Fox, *Secretary.*

THE ONTARIO VETERINARY ASSOCIATION.

The annual meeting of this association was held in the Veterinary College, Toronto, on Dec. 22d, 1896.

The meeting was opened with the President, Mr. H. Hopkins, V. S., of Green River, Ont., in the chair, who made a few well-chosen remarks on the benefits to be derived both individually and to the profession at large by attendance at these annual gatherings, and he hoped to see still greater interest taken in them in the future by all members of the profession in this Province.

The Secretary's, Treasurer's and Auditor's reports were received and adopted.

A motion was carried that the initiation fee be reduced to $3.00 and the annual dues to $1.00.

The following new members were duly proposed and accepted: Mr. Jas. Mayhew, V.S., of Cookstown, Ont.; Mr. S. Lawson, V.S., of Acton, Ont.; Mr. Lawson, V.S., of Dundas, Ont.; Mr. R. F. Golden, V.S., of Windsor, Ont.; Mr. Jas. Gregg, V.S., of Little Britain, Ont.; Mr. J. H. Reed, V.S., of Guelph, Ont.; and Mr. A. R. Metcalf, V.S., of Vankleek Hill, Ont.

A discussion then ensued on the proportion of the fines imposed under the provisions of the recent Veterinary Act that should be paid over to the prosecutors, these fines being the property of this association; and it was resolved that as the association did not wish to be pecuniarily benefited by the fines, but wished to protect the profession, "That the greater part should be paid over to the prosecutor, and a small proportion only to be retained to defray necessary expenses."

The election of officers for the ensuing year then took place, with the following result: Major Lloyd, President; Mr. S. Sisson, First Vice-President; Mr. H. S. Wende, Second Vice-President; Mr. Sweetapple, Secretary and Treasurer. Directors, Messrs. W. Shaw, W. Gibb, J. W. Faskin, W. J. Wilson, John Wende, W. Steele, W. Cowan and R. F. Golden. Auditors, Messrs. C. Elliott and J. D. O'Neil. Delegates to the Western Fair Association, Messrs. J. H. Wilson, Sr., and J. D. O'Neil. Delegates to the Industrial Fair Association, Toronto, Prof. A. Smith and Major Lloyd.

The retiring President having vacated the chair in favor of the President-elect, a hearty vote of thanks was tendered to Mr. Hopkins for his able conduct in the chair and the interest he had taken in the association during his term of office.

Major Lloyd, on assuming the chair, thanked the members cordially for the honor conferred on him, and promised to do all in his power for the best interests of the association. Amongst other matters he urged upon all the members the benefits that might accrue if each one were to give an account at the next meeting of some case of special interest during the past year, even if it were only one case. But he hoped every one would endeavor to contribute something.

Prof. J. N. Reed, of the Guelph Agricultural College, gave an interesting account of some cases of cerebro-spinal meningitis that he had met with; he mentioned particularly the paralysis of the muscles of deglutition as one of the symptoms. He had had bacteriological examinations made of the water used, and he believed the cause of the disease to have been pathogenic bacteria in the water. Hyposulphite of soda and also nux vomica had been used in the medicinal treatment of the disease.

Mr. R. F. Golden, V.S., of Windsor, Ont., gave an account of the disease among swine that had existed in the county of Essex. He described the symptoms he had observed, also the post-mortem appearances. He mentioned that in some cases the bowels showed more indications of disease than the lungs, while in other cases the reverse was apparent, and frequently both the lungs and bowels were implicated.

Mr. Gibb, V.S., of Stratford, Ont., read an excellent paper on the value of action and position as indications of lameness in the horse, and the diagnosis of its location.

Interesting discussions took place at the close of each, in which many members participated, and a hearty vote of thanks was tendered to each of the gentlemen mentioned for his valuable contribution.

A discussion then came up, in which many took part, on the need for better legal protection to the profession, and the best mode to be adopted for endeavoring to secure it, and it was strongly urged that all members of the profession should act in unison, as only by that means can it be hoped to attain the object in view. Several other matters of interest were brought forward and discussed. The sum of $25 was appropriated for a medal to be competed for by the students of the Ontario Veterinary College at the approaching spring examination, and the meeting adjourned. C. H. SWEETAPPLE, *Secretary.*

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The December meeting of this association was held on the 8th, with the following members of the profession present: Drs. Allen, H. P. Eves, Chas. T. Goentner, J. R. Hart, W. H. Hoskins, W. S. Kooker, J. T. McAnulty, Leonard Pearson, W. L. Rhoads, and a few students.

A report of the Committee on Certificates was made, the certificates were issued to those present, and the committee, having completed its task, was discharged.

Under unfinished business, the election of Dr. E. A. A. Grange as an honorary member was in order, and it was unanimous.

The following amendment to Article II, Section 3, of the By Laws was offered by Drs. Leonard Pearson and W. H. Hoskins: "Candidates for honorary membership must be proposed in writing by two active members of the Association, and their names referred to the Board of Trustees and acted upon at a following meeting."

The applications of Dr. Thomas B. Rayner and Dr. B. A. Christmann, both of Chestnut Hill, having been favorably reported by the Board of Trustees, were acted upon by the Association, and they were unanimously elected to active membership.

Dr. Ravenal, of the State Bacteriological Laboratory now gave an interesting talk on "Bacteriology in its Relation to Veterinary Science," during which he spoke of the great interest taken in science by a great number of veterinarians, the works of some having been epoch markers, the field of preventive medicine having so far proven more productive to the veterinarian than to his brothers in the healing art. Based on bacteriology we have quarantine, etc.; preventive inoculations (he spoke of the three distinct types of vaccinations). He then spoke of the best way for the general practitioner to assist the specialist in bacteriology in his work for their mutual benefit.

He said the theory of burying anthrax animals seven or eight feet deep to prevent further infection, while practically safe, was not literally so, as experiments have shown that the changes due to decomposition develop heat enough to allow the formation of spores which might be brought to the surface by earthworms. He spoke of osteo-porosis and meningitis as being of peculiar interest alike to the practitioner and the scientist.

Dr. Hoskins asked by what means we might verify the diagnosis of what we know as dumb rabies.

Dr. Goentner, having seen a number of these cases, thought a majority of them were a form of meningitis.

Dr. Ravenal now explained how the diagnosis might be proven by successive inoculations, the germ constantly becoming more virulent.

Dr. Pearson spoke of a culture being propagated through eight generations of rabbits.

Dr. Hoskins now spoke of a committee from the Milkmen's Association having waited upon him and asking that they be granted a hearing on the milk question, as they felt Dr. Morris had been heard in opposition to them. It was then moved and decided to invite Mr. George Abbott to give a half hour talk at the January meeting on the milk question.

W. L. RHOADS, *Secretary.*

MAINE VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting was called to order by President Russell, and there were present Drs. Choate, Russell, West, Lord, Salley, Joly, Murch, Cleaves and Dwinell.

Reports of the Secretary and Treasurer were read and approved.

Dr. L. Sherman Cleaves, of Bar Harbor, was elected to membership.

The following officers were elected for the ensuing year: President, Dr. F. L. Russell; Vice-President, Dr. A. L. Murch; Secretary, Dr. W. L. West; Treasurer, Dr. A. Joly.

President Russell appointed the following Executive Committee: Dr. Huntington, Portland; Dr. Murch, Bangor; and Dr. Salley, Skowhegan.

Dr. West moved that the association give a certificate of health to owners of herds tested and found healthy. After a very spirited discussion by Drs. Russell, Lord, Murch, Salley, Joly, Cleaves and West the motion was withdrawn.

It was voted to send five dollars to the committee of the Pasteur Memorial Fund.

Dr. Joly moved that the association ask the legislature to amend the public law of 1887 for the Cattle Commission to consist of five instead of three members as at present. After a very free discussion the motion was lost.

On motion of Dr. Joly, a committee of three were appointed to confer with the State Boards of Agriculture and Health in regard to the State Board of Health taking charge of contagious diseases. Dr. Russell appointed the following Committee to confer with the State Boards: Drs. West, Joly and Lord.

Dr. Choate moved that the sentiments of the association in regard to the Army Veterinary Bill be sent to Speaker Reed, the motion was carried, and the Secretary instructed to attend to the matter.

On motion it was voted to reconsider the action of the association in regard to presenting the same bill to the legislature as in 1894.

On motion it was voted that the association pay the expenses of the committee which meets the State Boards.

It was voted to submit to the Maine legislature the same bill to be introduced into the Colorado legislature.

On motion it was voted that a committee of three be appointed to look after the interests of the bill and see that it is properly presented to the legislature. Committee on legislature: Dr. Choate, Dr. Salley and Dr. Joly.

On motion it was voted that a notice of amendment to the By-Laws of the association, Art. 3, Section 1, be amended to read: "The meetings of this association shall be held once in three months."

It was voted to issue a call for a special meeting at the Hotel North Augusta, Feb. 15, 1897, for the purpose of taking action in regard to testing cattle and the board of health act.

The meeting then adjourned. W. L. West, *Secretary.*

VIRGINIA STATE VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of the Virginia State Veterinary Medical Association was called to order by the President, Dr. Geo. C. Faville, in the Odd-Fellows' Hall, Staunton, Va., on Tuesday, January 5th, 1897, at 11.45 A. M.

The roll-call showed a very good attendance. The minutes of previous meeting were read and approved. After the report of various committees and the Board of Censors had been received and acted upon, Dr. Burkholder read a very able and interesting paper on "The Examination of Horses for Soundness,"* which was fully discussed by the author and Drs. Harbaugh, Faville, Roop and Niles.

Drs. Faville and Niles reported cases of aphthous fever, which elicited a warm discussion.

Dr. Faville also reported two cases of tetanus, in which the anti-toxin treatment was successful.

The President, Dr. Faville, addressed the association, remarking, in part, that the standing of the profession is advancing, and that the people appreciate veterinary medicine now more than they formerly did.

The association is in a flourishing condition, and has accomplished more than any other similar body, although it is one of the youngest. The State Examining Board, the office of State Veterinarian, act of legislature relative to contagious diseases, are all the work of the association. The President also remarked that the State Board of Health should have a veterinarian as an active member, as also should the local boards. Various cities in the State have taken up the subject of tuberculosis, and will doubtless take action in the matter in the near future.

After a vote of thanks to Dr. Burkholder, the resident member, for courtesies shown, the association adjourned to meet in Richmond on Wednesday, June 23, 1897.

THOMAS M. SWEENY, *Secretary.*

INDIANA ASSOCIATION OF VETERINARY GRADUATES.

The seventeenth semi-annual meeting of this association, held at the State House, Indianapolis, Ind., Jan. 6th, was called to order by the President, F. A. Bolser, with the following members and visitors present: Drs. H. J. Kannal, F. L. Armstrong, O. L. Boor, J. W. Watson, J. D. Sturm, F. W. Myers, A. D. Matthews, J. O. Greeson, F. W. Anderman, G. H. Roberts, J. S. Culvert, C. F. Bell, J. Crail, J. W. Klotz, A. W. Bitting, G. G. Ferling, R. J. Hall and J. C. Rodger. Visitors: Drs. L. A. Greiner, J. F. Roe, J. R. Mitchell, Dan Sayre, J. M. Pattison, John Elliott, J. W. Coppes, E. H. Pritchard, P. O. O'Rear, W. A. Dryden, C. H. Ergenbright and J. Cramer.

The minutes of the previous meeting were read and approved.

---

* Will be published in an early issue.

The reports of the Secretary and Treasurer were then read and approved.

On motion the Indiana Association of Veterinary Graduates adjourned, and is now considered an organization of the past.

On motion Dr. F. A. Bolser was elected President for the ensuing year, O. L. Boor, Treasurer, and J. C. Rodger, Secretary.

On motion the chair was empowered to appoint six members to revise the by-laws of the old association. The chair named Drs. O. L. Boor, G. G. Ferling, L A. Greiner, J. Culvert, J. F. Roe and J. R. Mitchell. It was read by sections and the changes adopted.

Then followed the enrolment of charter members of the Indiana State Veterinary Association, all present becoming members.

On motion a committee was appointed to obtain a charter.

Dr. A. W. Bitting, of Purdue University, then read a paper, a *résumé* of veterinary progress in 1896, which was well received, and a good discussion followed.

The meeting then adjourned to meet in Indianapolis in July.

J. C. RODGER, *Secretary*.

MISSOURI VALLEY VETERINARY ASSOCIATION.

The eleventh regular meeting of this association was held in Kansas City, Mo., Wednesday, Dec. 9, 1896, in Room 23, Masonic Building. The meeting was called to order at 7.30 P. M. by President Stewart, and the following members responded to roll-call: Drs. Sihler, Barth, Stewart, Harrison, Black, Moore, Kaupp, Day, Hopkins, Bray and Hunter. Visitors: Drs. Shafter, Allen, Patten, Millness, and Ovens, and Messrs. Freeman, Cooper, Conrad, Leper, Moore, Pouppirt, Wright, Simpson and Cowden.

The minutes of the last meeting were read and approved.

A communication from Dr. N. S. Mayo, was read relating to "Cerebritis" in horses, caused by eating mouldy or wormy corn.

Dr. Shafter was elected to membership.

In reference to the charges against Dr. J. H. Wattles for unprofessional conduct, being a violation of Artiele VI., Chapter V. of the Code of Ethics, the committee making reports thereon, upon motion, duly seconded, Dr. J. H. Wattles was expelled from the association.

Excellent papers were read by Drs. C. J. Sihler and Benj. Kaupp, and were fully and freely discussed.

President Stewart interested the members in the parasite commonly called "fluke" by a short talk; illustrating the subject with drawings, and preserved specimens. After a most profitable time, well spent, the meeting adjourned to meet in Kansas City, Mo., in February, 1897.

Essayists for next meeting: Drs. Barth, Shafter and Harrison.

S. L. HUNTER,
Secretary.

WISCONSIN SOCIETY OF VETERINARY GRADUATES.

The annual meeting of this society will be held at the City Hall, Madison, Wis., on Friday, Feb. 5th, at 1.30 P.M. Secretary Dr. W. G. Clark has favored the REVIEW with the very interesting programme, which is as follows: "Laminitis," Dr. B. L. Clark, Monticello; "Tuberculosis," Dr. J. J. Oberst, Cedarburg; "Reflex Irritation," Dr. H. A. Arpke, Sheboygan. Reports of Cases—Drs. E. H. Newton, Waupun; J. F. Roub, Monroe; J. P. Laws, Madison; and D. Roberts, Waukesha. As the meeting of the State Agricultural Society occurs at the same time and place, excursion rates can be had on all railroads.

THE CHICAGO VETERINARY SOCIETY

held a banquet at the Sherman House, Chicago, on Thursday evening, January 14, 1897. Thirty-two veterinarians of Chicago responded to the invitation, and the meeting proved a success in every sense of the word. Dr. L. A. Merileat read the second part of his paper on "Veterinary Dentistry," which was followed by a lively and highly interesting discussion. There is a spirit of amiability and mutual respect noticeable in this young society which is very pleasing, and which must by necessity stimulate a higher conception of professional ethics in the rising generation of Chicago's veterinarians.

IOWA STATE VETERINARY MEDICAL ASSOCIATION.

The recent meeting of the above association was one of the most interesting ever held by it, and the REVIEW will publish the proceedings in the March issue. The following officers were elected for 1897: President, Dr. G. A. Johnson, Sioux City; First Vice-President, Dr. S. H. Kingery, Creston; Second Vice-President, Dr. J. H. McLeod, Charles City; Secretary, Dr. J. E. Brown, Oskaloosa.

CORRESPONDENCE.

PROF. LAW'S INAUGURAL ADDRESS.

WASHINGTON, D. C., Jan. 5, 1897.

To the Veterinary Fraternity:

I was much surprised at reading the address of Professor James Law, of New York, before the New York State Veterinary College.

His address was filled mainly by depreciation of all our fostered institutions of learning, especially those that aim to teach the science and art of veterinary medicine and surgery.

It is evident from his vocabulary that he is either one of two things, perhaps both, to-wit: a pessimist or an ignoramus. He claims that more than one veterinary college in America has sunk to the lowest depth of sordidness. Why don't he state the names of such colleges? but, no, he has cowardly entrenched himself against an attack behind the terms of generality.

If I am informed correctly, Professor Law graduated from an English institution, of which he has warned the American fraternity. If this be true, there is a lack of an alma-mater feeling and respect that throbs in the breast of every honest graduate. Strange, too, that he should rise from what was a short time since embryonic development to such mature and herculean proportions. Was this growth the result of English education, and was this article of his an auto-inspiration? He claims that the colleges of our country—I say the colleges because he has failed to designate the specific ones—have been guilty of the following practices: (1) To shorten the curriculum, (2) To admit ill-prepared candidates, (3) To graduate large numbers irrespective of fitness, (4) To sell diplomas. This, I say is false, as every informed veterinarian will aver.

Every college in the Association of Veterinary Faculties has increased its requirements for admission, and lengthened its curriculum, and guarded its diplomas with conscientious zeal.

Another accusation which deserves condemnation is, that the veterinary schools of America, as well as of England, are private ventures, and as such prostitute the higher motives that stimulate scientific and conscientious teaching. If the Professor will cast his august eye over the names of the large institutions of learning in this country, he will be compelled to admit that the largest and most successful are those that have depended entirely upon the results of their own work for their maintenance (such as Johns Hopkins, Standiford, Georgetown, and McGill Universities).

When you enshrine State control and franchise around an institution, you bring it within the category of political influence, and it adds an additional factor by which the politician may further influence his own personal aims.

The veterinary profession at large, also, should suppress by their united efforts an alarmist who raves without any facts, as a basis for his statements.

It may be evident to some, perhaps all, that he desires to form a trust upon the whole professional future of veterinary surgery, and he has taken this method of apparent respectability to limit the admissions to its rank. As a result of his effort and the reform work he has undertaken, we fear we will lose him prematurely as a consequence of general paresis, the premonitory symptoms of exaggerated ideas having already appeared.

The address of Professor Law, I think, demands the strongest and most emphatic denunciation of every veterinary college in America.

CHAS. M. EMMONS, M.D., PH.D.,
Professor Mental Diseases Howard University, Professor Physiology and Histology United States College of Veterinary Surgeons.

BIBLIOGRAPHY.

TEXT-BOOK OF VETERINARY MEDICINE. By James Law, F. R. C. V. S., Director of the New York State Veterinary College, Ithaca. Vol. I.

This is the first part of a text-book which, to use the words of the author, he is preparing for the use of his students. Vol. II. is now in preparation, and will in turn be followed by others, until the field has been fairly covered. In his preface, after making allusions to the well-deserved success of the *Farmer's Veterinary Adviser*, the author says that he aimed to produce a work which will meet the needs of the American student and practitioner, and with this object in view, the "Text-Book of Veterinary Medicine" is presented. After a few pages on general pathology, the subject of the diseases of the respiratory apparatus occupies the principal portion of the book, which is completed by those of circulation. The work is published by the author, and is well bound and of neat appearance.

PROCEEDINGS OF THE UNITED STATES VETERINARY MEDICAL ASSOCIATION. Session of 1896. Edited by the Publication Committee, W. L. Williams, V. S., Chairman.

We have received the above-named volume and tender our compliments to the Committee on Publication of the association and to the Chairman, who, we are sure, has developed on this occasion his usual energy in fulfilling his duties towards the association. The book contains many important points of information relating to the association, besides the transactions of the meeting in Buffalo, with all the papers and communications presented to the convention.

Insects Affecting Domestic Animals. An account of the species of importance in North America, with mention of related forms occurring on other animals. By Herbert Osborn, Professor of Zoology and Entomology, Iowa Agricultural College, Ames, Ia. (Bulletin No. 5, new series, Division of Entomology), lately published by the Department of Agriculture, discusses "particularly those insects which, by direct attack upon domesticated animals, render themselves an injurious element to stock-breeder, poultry-raiser, and keeper of various animals for pleasure and profit."

Each species is treated quite fully, its past history, extent of injury, habits, and life history being given, and finally methods of preventing or relieving its injuries are described. Edition limited to 1000, and can be had from the Superintendent of Documents, Union Building, Washington, D. C., for 20 cents.

PAMPHLETS RECEIVED.

Charbon or Anthrax, Bulletin of the Louisiana State Experiment Station.

Veterinary Sanitary Board of Colorado, Biennial Report, including that of the State Veterinary Surgeon, Dr. Chas. Gresswell.

BOOKS RECEIVED.

Report of Commissioner of Education, 1894, 1895. Vol. I.

OBITUARY.

Oren H. Flagg.

This well-known veterinary surgeon, died at his residence, 299 Acushnet Ave., New Bedford, Mass., on Sunday, Jan. 3, after a two months' illness of kidney and heart troubles. He was born in Barre, Mass., on Feb. 28, 1823, and began the study of medicine when 30 years of age, graduating as an M. D., from the Cincinnati Medical School; but, having a natural taste for animals, he turned his attention to veterinary medicine, studied with the late Dr. George H. Dadd, and in 1859 received a degree from the Boston School of Veterinary Medicine and Surgery after four years of study. Beginning practice immediately after receiving the degree in New Bedford, he has continued to practice there without interruption ever since. He enjoyed the confidence and respect of the community in which he lived, and was widely known and highly esteemed by the older members of the veterinary profession at large, he having been one of the originators of the United States Veterinary Medical Association.

JOSE MARIA PERALTA, M.D., D.V.S.

With sincerest regret we learn of the unfortunate termination of the promising career of this brilliant young man, who was killed by the Spanish troops in Cuba a few weeks ago. He was a graduate of the American Veterinary College, class of '92, and of the Jefferson Medical College of Philadelphia, and had gone to Cuba from his home in Costa Rica, Central America, to assist the patriots in their struggle for freedom. As a student he was most intelligent and devoted to his studies, and, although embarrassed by an imperfect knowledge of the language, he had a fine comprehension of the science. He afterwards became connected with a hospital in Pennsylvania, and finally returned to his native country with a splendid education in human and comparative medicine.

At a regular meeting of the American Veterinary College Medical Society, the following resolutions were adopted:

WHEREAS, In view of the loss we have sustained by the decease of our friend and fellow-student, A. J. P. OORT, and of the still heavier loss sustained by those who were nearest and dearest to him,

Resolved, That it is but a just tribute to the memory of the departed to say that in regretting his removal from our midst, we mourn for one who was, in every way, worthy of our respect and regard;

Resolved, That we sincerely condole with the family of the deceased on the dispensation with which it has pleased Divine Providence to afflict them, and commend them for consolation to Him who orders all things for the best, and whose chastisements are meant in mercy.

Resolved, That this heartfelt testimonial of our sympathy and sorrow be spread upon the minutes of this society and that a copy be printed in the AMERICAN VETERINARY REVIEW and forwarded to the parents of our departed friend by the Secretary of our Association. C. E. CLAYTON, D.V.S., *President;* GEO. BLACKMAN, *Vice-President;* JOHN F. FAUSNER, *Sec'y;* HORACE BOYD, BERNARD GUNTHER, *Committee.*

COMMITTEES OF THE N. Y. C. V. M. A.—The following committees have been appointed by President Huidekoper, of the Veterinary Medical Association of New York County, for the ensuing year: Board of Censors—Drs. H. D. Gill (chairman), J. E. Ryder, H. D. Hanson, J. S. Cattanach, and Roscoe R. Bell. Judiciary Committee—Drs. Arthur O'Shea (chairman), H. D. Hanson, and W. H. Jackson. Publication Committee—Drs. H. D. Gill (chairman), J. E. Ryder, and T. Delaney.

NEWS AND ITEMS.

DRS. HUIDEKOPER AND GILL opened the New York Canine Infirmary on January 1, says the *Journal of Comparative Medicine.*

PROFESSORS H. D. GILL, H. D. Hanson and J. E. Ryder have been appointed the editing committee of the "Veterinary Blue Book of New York."

HUGH F. DORIS, D. V. S., graduate of the American Veterinary College, class of '85, is at present a law student at the University of West Virginia.

VETERINARIANS of New York and adjacent counties will do well to join the Veterinary Medical Association of New York County and thereby derive the benefits of the association.

DR. P. A. DILLAHUNT, of Springfield, Ohio, graduate of the Ontario Veterinary College, '93, was married Tuesday, December 15, 1896, to Miss Elva Kobelanz, of Springfield, Ohio.

DR. TAIT BUTLER is no longer connected with the Mississippi Agricultural College. He is succeeded by Dr. J. C. Robert, V. M. D., as professor of veterinary science.—(*Breeders' Gazette.*)

W. H. ARROWSMITH, D.V.S., of Jersey City, N. J., opened a new hospital for horses and dogs January 9th, corner of the Boulevard and Communipaw Ave. R. M. A. English is house surgeon.

IF YOU KNOW anyone practicing illegally in New York State send their name and address to the Judiciary Committee to aid them in their work and thus benefit yourselves as practitioneers.

"THE VETERINARY BLUE BOOK OF NEW YORK," edited by the committee, ought to be in every veterinarian's library, and they ought to try to assist the said committee to make the book a success.

THE LAW OF NEW YORK STATE, prosecuting persons practicing any part of veterinary medicine and surgery illegally, has been tested and found to be iron-clad. Who will be the next to be prosecuted?

DR. AND MRS. WM. H. PENDRY, of Brooklyn, celebrated the twenty-fifth anniversary of their wedding at Wilson's Assembly Rooms, in that city, on the 29th ult., and a large circle of friends were present.

THE KEYSTONE VETERINARY MEDICAL ASSOCIATION has endorsed the bill to require the registration of master and journeymen horse-shoers, and the bill will be introduced at the next session of the Pennsylvania legislature.

FINLAY DUN, F. R. C. V. S., author of the well-known text-book on veterinary materia medica, has been appointed an examiner on veterinary hygiene in the Edinburgh University for four years, succeeding Prof. W. O. Williams, whose term has expired.

"CHARBON OR ANTHRAX" is the subject of Bulletin No. 44, being the experiences with recent outbreaks of the disease in North Louisiana by S. B. Staples, D.V.S., and W. H. Dalrymple, M.R.C.V.S., and issued by the Louisiana State Experiment Stations.

THE AMERICAN HORSE EXCHANGE, New York City, recently rebuilt on the site of the original building, which was burned last year, was opened for business on Jan. 15. It has 350 stalls and boxes and seating capacity for 1200 persons, and special sales will be held of horses, cattle and dogs.

HOG CHOLERA IN MISSOURI.—The *Breeders' Gazette* says: "An epidemic of cholera, extending over a whole scope of territory in Western Illinois and Northwestern Missouri, is carrying off hogs by hundreds and thousands. Many farmers have lost entire droves. This information comes from Warsaw, Hancock County."

THE HATCH EXPERIMENT STATION of the Massachusetts Agricultural College at Amherst, has reprinted for general distribution the excellent article by Prof. Bang, of Copenhagen, entitled "The Application of Tuberculin in the Suppression of Bovine Tuberculosis," from the *Deutsche Zeitschrift für Thier Medicin.*

PROF. EDWIN WILLETS, A. M., LL. D., whose death was announced in the January REVIEW, was stated to have been the lecturer on medical jurisprudence at the United States College of Veterinary Surgeons, Washington, D. C. We have been apprised of our error in this statement, and informed that the deceased had occupied that chair in the National Veterinary College, recently merged into the Columbian University. Although not a veterinarian, the deceased was a devoted friend to the profession.

VETERINARIANS BECOMING M. DS.—On account of the great depression in the equine industry, especially in the Western

States, many veterinarians have become discouraged and not a few are seeking to perfect themselves for human physicians. At the Keokuk Medical College, in Iowa, alone there are three former practitioners who expect to graduate in the class of '98. They are Dr. D. C. Thomas, late of Iowa Falls, Iowa; Dr. R. C. Blackburn, late of Hinckeley, Ill.; and Dr. Robert Robb, late of Terre Haute, Ind.

"THE INFLUENCE OF ANIMAL EXPERIMENTATION UPON AGRICULTURE" is the title of a pamphlet which is reprinted from the proceedings of the seventeenth meeting of the Society for the Promotion of Agricultural Science, held at Buffalo, N. Y., in August last, and the author is Veranus A. Moore, of the New York State Veterinary College, a gentleman well-known to the veterinary profession through his former connection with the Bureau of Animal Industry. We hope to be able to reprint the paper in the REVIEW shortly.

THE CANADIAN-UNITED STATES QUARANTINE LAWS.—Sydney Fisher, of Ottawa, and Secretary Morton, after a full conference over the present cattle quarantine laws between the United States and Canada, have reached a general basis of agreement. The proper officers of each country will endeavor to frame mutually satisfactory regulations whereby the present long detention of cattle to be shipped from either country to the other will be avoided as far as consistent with safety. The regulations then will be presented to the respective heads of the United States and Canadian Departments of Agriculture for ratification.

A VETERINARIAN WITH PARESIS.—We much regret to hear of the unfortunate illness of Dr. Robert Summers, of Flushing, L. I., who was removed to an asylum on January 8th, suffering from paresis. He was one of the earliest practitioners of veterinary medicine on Long Island, having practiced in Flushing and vicinity for twenty-five years. He was born in Berne, Switzerland, in 1848, and graduated from the University of Berne in 1869. Dr. Summers was a man of genial personality and stern integrity, and his unfortunate malady, brought on by overwork, is a cause of much regret to his many friends. He has a wife and three children.

ILLINOIS STATE VETERINARY COLLEGE.—At the late meeting of the Illinois State Horticultural Society held at Springfield the question of veterinary science was taken up and after discussion the subject was referred to a committee consisting of

Hon. John M. Pearson, Henry M. Miller, and H. J. Thurston, who reported as follows: "WHEREAS, We, as members of the Illinois State Horticultural Society, recognize the importance of veterinary instruction and of the immense live-stock interests of the State with which we are connected; therefore, *Resolved*, That we heartily indorse a plan to create a college of veterinary science, to be under the control of the Trustees of the University of Illinois."

THE AUTO-MOTOR CAR IN ENGLAND.—In the course of an editorial retrospect of scientific advancements during 1896 affecting veterinary interests or collateral sciences, the January *Veterinary Journal* (Principal Williams, editor) says: "The removal of the restrictions on auto-motor cars is an event worthy of note, as a possibility has thereby been created that the employment of horses for draught purposes may be dispensed with. That auto-motor cars will displace the horse to some extent in the street-transport of the parcels and heavy goods of commerce is, in my opinion, highly probable; but I also feel confident that other openings for the use of the noble animal will, with equal probability, be found."

ONTARIO VETERINARY COLLEGE.—The Christmas examinations of this college were concluded Dec. 22, and the following gentlemen passed and received their diplomas: F. G. Atwood, Minortown, Conn., A. McKay Brock, Ottawa, Ont.; Eugene Elwood Burdick, Ashaway, R. I.; A. Edwin Dennis, Kinsale, Ont.; John P. Fitzgerald, Mount St. Louis, Ont.; Joseph Gregg, Little Britain, Ont.; Henry F. Hartnett, Brooklyn, N. Y.; Jeremiah J. Keleher, Pembroke, N. Y.; George H. Leslie, Ottawa, Ont.; David F. Luckey, Perryville, Mo.; A. R. Metcalfe, Vankleek Hill, Ont.; G. H. Munro, Carluke, Ont.; Joseph Nelson, Bath, Ont.; Walter H. Orme, London, Ont.; James E. Smith, Webster, N. Y.; Joseph Telfer, Milton, Ont.; G. A. Wehr, Andreas, Pa.

VETERINARIAN KILLS A THIEF.—Dr. A. C. Worms, of Chicago, a young and successful practitioner, has had the misfortune to kill a man who stole the blanket from his horse, while the doctor was attending a sick horse in a rear stable. It was ten o'clock at night, and when the doctor discovered the fact and saw the thief running off he fired a shot after him merely to frighten him. The man was about 150 feet away, but the bullet struck him and he dropped dead. The doctor gave himself up to the police and is now out on $5000 bail awaiting trial. The Chicago Veterinary Society at its meeting on Dec. 10th passed a unanimous resolution sympathizing with the doctor and exonerating him from all blame, as his previous character is faultless and as his unassuming and amiable manners had long since won for him popularity among his colleagues.

A MAINE FREAK.—The most wonderful freak of nature which has lately been reported was shown a representative of the *Journal* this morning by Veterinary Surgeon Edward I. Brackett, of this city. A few days ago Dr. Brackett was called to the farm of J. S. Sanborn to remove a bone tumor from the head of a valuable horse owned by a Providence, R. I., gentleman. When the tumor was removed a piece of perfectly white bone was found which was an exact imitation of the head of a dog. The outline of the face, the eyes and the ears are very distinct, and, in the rest of the tumor removed, the entire outline of the animal is traceable. Mr. Sanborn considers it one of the most remarkable things he ever saw, and it has much interested all who have seen it. The curiosity can be seen at the office of Brackett & Zeigler on Chapel Street. The writer is free to say that if he had not seen this phenomenon it would have required some faith for him to have believed the story.—*Lewiston* (*Me.*) *Even. Journal.*

RINDERPEST IN SOUTH AFRICA.—Professor Koch, accompanied by an assistant bacteriologist, Dr. Kohlstock, has gone to the Cape of Good Hope for the purpose of discovering the cause and suggesting a method of suppressing the rinderpest. Hitherto neither preventive nor curative methods has proven of any value. While it is conceded that the disease is of microbic origin, the particular coccus has not been determined. Many investigators have discovered organisms which they claim to be the cause, and it is to be hoped that the distinguished German bacteriologist may find an antitoxin. Mr. Frank R. Thompson, late special rinderpest commissioner, states that the conditions in South Africa are most alarming ; that the disease will not disappear until it reaches the dock gates at Capetown ; that not one per cent. of the cattle in Cape Colony can be saved, and that there is grave danger of war with the natives in consequence of the hardships necessarily inflicted by the quarantine regulations, and the great destruction of infected herds.

A LONG CANINE FAST.—Mr. J. Mathews, Veterinary Surgeon, Bangor, has furnished the *Veterinary Journal* (England) with the following account of the long fast of a dog, in the shape of a letter from the owner, which is as follows; "TAIRMEIBON, BANGOR, N. W., Nov. 3, 1896.—Dear Mr. Mathews: My collie bitch, Beauty, was buried under straw (accidentally and unnoticed, and protected by projecting timber from wall of barn) and without food or drink from Dec. 6th, 1892, to Jan. 13th, 1893, viz., 38 days. She was very fat when lost, and was nothing but skin and bone, and, of course, as nearly dead as possible when discovered. She had been 'lined' about a fortnight before burial, and I think it possible she may have pupped during incarceration, and ate the litter, if any. There was very little excretion where she was found, and that hard and dry. Her eyes and nostrils were perfectly closed with matter. I fed her at first with a little warm milk by means of a spoon inserted in her mouth. This would be about mid-day on Jan. 13th, and by the evening she was able to stand (with a little assistance) and lick the warm milk on her own account. The excretion emitted for a few days afterwards was most offensive. In about a fortnight after discovery she was as fat as ever, and is now alive and well. I remain, yours very faithfully, H. ELLIS."

MEAT INSPECTION BY THE GOVERNMENT.—Secretary Morton's report to Congress upon this subject is very interesting. The inspection of animals intended for food is treated of at length, and stress is laid upon the increased efficiency of the work, due to the extension of civil service rules, which has been very rapid in this service. The total number of ante-mortem inspections of cattle, sheep, calves and hogs during the year was 35,947,479, an increase over the previous year of over 40 per cent. The total number of post-mortem inspections was 23,164,868, an increase of 25 per cent. The total number of abattoirs under inspection in 1896 was 101 in twenty-six cities; in 1892 there were but twenty-eight in twelve cities. For the sake of economy the exports of microscopically inspected pork to countries not exacting such inspection have been greatly discouraged. The total amount thus inspected was, in round numbers, 230,000,000 pounds, of which 21,500,000 pounds went to countries requiring inspection. Clearances were issued to 819 vessels carrying cattle and sheep. Of cattle there were tagged for export 377,639, and 422,603 inspected sheep were exported. The percentage of loss in transit was considerably less than ever before. Mr. Morton urges strongly that government inspection should be extended to all animals intended for human food whether for consumption in the United States or abroad.

BLOOD SPECIMENS OF PERNICIOUS ANÆMIA.—L. found in more than 20 cases of pernicious anæmia, outside of the ordinary nucleated red corpuscles, megalo and normoblasts, also red blood corpuscles with small bluish colored nucleoli either very small or larger and aggravated. These nucleoli are seldom so numerous as to be visible without special search being made for them. Only once has L. seen this picture on a single case of leucæmia, never in the severest cases of secondary anæmia except in one instance of hæmophilia, in which, however, it was not shown that the secondary anæmia changed into the pernicious form. These nuclei can only be seen by the methyl-blue-rosin stain, never in fresh specimens of blood. A. says these blueish nuclei are the result of disintegration of the ordinary nuclei.—(*Berl. Thierärzt. Woch.*)

THE CATTLE COMMISSIONERS OF MAINE.—A meeting of the Maine Cattle Commissioners (Hon. F. O. Beal, of Bangor, Hon. John M. Deering, of Saco, and Dr. George H. Bailey, of Deering) was held in the Bangor House on Wednesday night, Dec. 30, to close the business of the year and discuss the situation of affairs. The commissioners have made arrangements whereby any one in the milk business who desires his herd tested, in order to secure an official certificate of health, may do so by notifying the commissioners and by complying with the rules and regulations, which are that the cattle be properly tested, the owner paying the expense of the test, $1 a head. The State takes charge of all diseased cattle, certificates being granted only to a healthy herd. Every consumer of milk should demand that the person who supplies it shall have a health certificate. On Tuesday Commissioner Beal caused 15 cows in a herd of 19, belonging to C. H. Patterson, of Hampden Centre, to be killed. A diseased cow had been previously found in Mr. Patterson's herd, and it was at his request that a thorough examination of all the cattle was made. Three cows in a herd of eight in Bangor were also killed. Other cases are suspected to exist and will soon be investigated. In Westbrook between 40 and 50 thoroughbred cattle owned by Alonzo Libby will be destroyed later.

PRACTICE FOR SALE—CHEAP.

A well-paying practice in Illinois, on account of sickness. Will sell with or without horses, barn, etc. Address "PRACTICE," care of AMERICAN VETERINARY REVIEW, 141 West 54th Street, New York City.

AMERICAN VETERINARY REVIEW.

MARCH, 1897.

EDITORIAL.

VETERINARY BILLS BEFORE THE NEW YORK LEGISLATURE.

If a feeling has hitherto possessed the members of this profession in the Empire State that they did not receive sufficient attention from that erratic body of statesmen known as the New York legislature, either in acts of omission or commission, they can at least dispel from their minds any such impression with regard to the present session—for, unless one makes an acute study of the proceedings from day to day, he will be unable to keep pace with the vitascopic rapidity with which bills affecting the profession in one way or another are poured into the various committees for consideration. These bills are of the most diversified character—from the complete obliteration of the legal standing of the profession to the appointment of butcher-shop inspectors; from the creation of a State veterinarian to the registration of a neglectful quack; from the transfer of contagious diseases of animals from the Board of Health to the Commissioner of Agriculture to the regulation of "bob" veal. Some of these bills are wise, some are otherwise; some are the work of brigands, others are the sly attempts of non-qualified men to receive special privileges by evading existing laws. The REVIEW in February very thoroughly considered Bill No. 137, which sought to reopen the books of registration for a year that every sort of quack might become a registered practitioner of veterinary medicine, and we are much pleased to announce, upon the best of authority, that the bill is dead, and so is Assembly Bill No. 25, which sought to permit Charles McCormick to become registered.

During the latter part of February the profession of this State was notified by its argus-eyed Legislative Committee of the introduction in the Assembly by Mr. Hughes, of Brooklyn, of Bill No. 231, creating the office of State Veterinarian, defining his duties, compensation, etc. The source of this bill was a matter of much speculation, and, as it had not emanated from the State Society, which is looked upon as the representative of the profession as a whole in the State, the conclusion reached was that this, too, was a matter of special legislation, and a political bill. Upon another page of this issue of the Review will be found a very manly letter from the author and responsible source of this bill, Dr. William H. Pendry, who states his reasons for its promulgation and for the withholding of his name until the profession had thoroughly criticised it. While the Review very much doubts the wisdom of the policy which he has pursued, it very readily accords to him credit for an undoubted honesty of purpose. Dr. Pendry is entitled to a great deal of consideration by the profession of this State, as it was almost by his unaided efforts and indefatigable bull-dog persistency that our present admirable protective law is upon the statute book. In the days when it was secured there were few who believed the law wise, and not a few openly villified the Doctor for his exertions, claiming that it were better to have gone on as we had been going than to have licensed the non-graduates; it would be hard to find a veterinarian now who would not concede that the law was fair, and just, and the best, under the circumstances. From this we simply wish to show that the author of the present bill is not a novice, nor one who is devoid of a consuming desire to serve the profession of his adoption, as he has always done; but we take issue with him upon the methods he has adopted in presenting this bill at Albany. Instead of being an individual effort, it should have been a concerted demand of the authorized representatives of the profession of the State; instead of different factions of the profession fighting the provisions of the bill before the Committee on Public Health of the Assembly, its provisions should have been debated and determined upon in the open meeting of the State Association. Just what was needed by the profession should have there been agreed upon, and then the Judiciary Committee, as the accredited and legal exponents of the veterinarians of New York State, should have presented their bill to the legislature as a demand of the grand body of men who constitute the profession of the Commonwealth. Instead of this the situation becomes ridiculous, and the law-makers will lose confidence in the sincerity of our demands in the future. We learn that a substitute bill is under consideration, creating a State Live-Stock Board, whose Secretary, a veterinarian, will be virtually a State veterinarian.

Without here discussing the wisdom of the establishment of such a board, we doubt very much the advisability of introducing the measure at this session, as there is liable to be developed an opposition by virtue of the effort to side-track the original bill. It does seem to us that such an important step should be taken after full discussion at the State Society Convention, in which all should participate, including the author of Assembly Bill No. 231, and when the bill has been so drafted as to be the demand of the State Society (as the representative of the profession), then go to Albany with an unbroken front, and tell the law-makers to make this law. Our cause will not suffer for this delay, and our chances of success will be greatly enhanced by reason of our unity. Another objection urged against Bill No. 231 is the fact that it permits the State Board of Health to have charge of the veterinarian, and in a very earnest letter sent out in advocacy of two other bills—Assembly Bills 614 and 619—Dr. Claude D. Morris, of Pawling, makes some very convincing arguments as to why the infectious diseases of animals should not be in the hands of the State Board of Health, but in those of the Commissioner of Agriculture. No. 614 is a bill to accomplish this, and No. 619 relates to the employment of veterinary surgeons throughout the State as their services are required by the commissioner. Heretofore the medical practitioner was also available for duty as a veterinary inspector, but this bill rightfully makes the veterinarian the sole recipient of such appointment, and the New York State Society the nominator of the various available inspectors in the different agricultural districts. There can be no question as to the wisdom of these two bills. The Commissioner of Agriculture should have supervision of the diseases of domestic animals, just as the analogous Federal department has, and the REVIEW will always strenuously oppose the divorcing of the veterinarian from the agriculturist, just as it will the appointment of human physicians to determine upon the diseases of animals, when we have qualified and competent men in our own ranks trained for just such work. There can be no two opinions as to a third objection to the bill to create a State veterinarian, and that is that the position should be competitive under the laws of civil service. The position of Veterinarian of the great Empire State should not be another "spoils" office, created or removed by the varying fortunes of political parties. A competent veterinarian placed in that office should remain there during the period of his proper performance of duty, and the longer he retains his position, if he conscientiously fills his post, the better service can be rendered his State and his profession.

We advise our *confrères* to go slowly; bring before the Society at Syracuse next September any ideas which they think will be of good to our calling and beneficial to our country, and there and then let us agree among ourselves, what we want, and then ask for it, and we think it will be given unto us.

VIVISECTION IN THE PULPIT.—It seems hardly credible, and yet the unexpected has happened, as we can record a case of vivisection in a Christian church. The city where this happened is Cadillac, Mich., and the unchristian experimenter is the Rev. W. L. Laughman. In order to demonstrate the baneful effect of tobacco he secured two cats and purchased some nicotine from a wholesale drug firm in Detroit. Assisted by a Dr. Miller he poured a few drops of the poison into the mouth of each of the cats before the assembled congregation, the animals dying under convulsions in the pulpit, and the cruel act being applauded by the assembly. If we consider that at the present day there are some over-zealous humanitarians trying to have Congress pass a law to suppress animal experimentation in our scientific institutions in the District of Columbia, where researches are quietly conducted for the benefit of our domestic animals, and in places secluded from the gazing eyes of the uninformed layman—this case assumes an aggravated form. Homœopathic physicians and ministers have been telling us for years that experiments on animals are not conclusive as to human kind, because in their belief the animal body is not analogous to the human body; yet one of their divine brethren adopts this same condemned method to demonstrate *ad oculos* a worn-out theory. It need hardly be stated here that as far as the value of the experiment is concerned it has none, but is clearly a fraud. Nicotine is a powerful alkaloid poison, whereas tobacco smoke contains no nicotine, or only a trace of it, the irritating effect being produced by several volatile bodies, chiefly pyridine compounds. Thus the minister is either a shallow-minded ignoramus, or he is a fraudulent character who stops short of nothing to gain notoriety. At any rate, he has irreverently trampled under his feet the Christian doctrine of mercy and has besmeared his hands with the useless murder of two innocent creatures. This is a case for our humane societies. If there is one in Michigan the reverend gentleman should be arrested and prosecuted for cruelty to animals, and the testimony of any veterinarian would convict him. If this is not done, who can tell how long it may be before again sheep and oxen are offered on the altar of God by ministers of this kind? O. S.

A VETERINARIAN TRIUMPH.—It has been seldom that a contest for a professional position has caused the amount of feeling and dissension by legislative and executive officers, or resulted in greater triumph for a distinguished member of our profession than did the appointment and confirmation of Dr. M. H. Reynolds, of the Agricultural College, at St. Anthony's Park, Minnesota, to the position upon the State Board of Health, made vacant by the expiration of the term of the physician member, who had, through his position of Secretary, virtually run the affairs of the Board for a great many years, and who by his arrogance and arbitrary methods in his treatment of the public had incurred their dislike. A couple of years ago, when Dr. Reynolds was elected to a position on the Board by the legislature, the Secretary of the Board, the now defeated Dr. Hewett, by his dislike for the veterinarian, so worked upon the Governor as to cause him to veto the nomination, and Dr. Reynolds' present triumph must be especially sweet to him, as it is satisfactory to the profession of veterinary medicine throughout the country. The Board of Health of every State in the Union needs a veterinarian as a member. Which will be the next?

CONFEDERATION OF SCIENTIFIC INVESTIGATIONS.—In a most interesting article in *Science* for January 15, Dr. Charles W. Dabney, Jr., Assistant Secretary of the United States Department of Agriculture, advocates a union of all the existing government bureaus for the promotion of science and the development of the country's resources into one great Department of Science. The article in question is very interesting and instructive. He shows that, omitting all those charged with purely executive business, the government schools, and the testing laboratories of the War and Navy departments, the United States maintains twenty-eight scientific bureaus for developing our resources and advancing industry, at a cost of nearly $8,000,000 per year, employing more than 5000 persons. They are engaged in all kinds of scientific work, from determining astronomical facts to the study of bacteria. It is claimed that by the confederation of these bureaus the cost could be greatly reduced, as many investigations are duplicated in the different departments, and the service rendered more efficient by having it in charge of scientific men only instead of transient occupants of political office, many of whom are entirely devoid of scientific knowledge or taste.

NASHVILLE TO HAVE THE MEETING OF 1897.—We are advised by Secretary Stewart, of the U. S. V. M. A., that the choice of the Executive Committee for the next meeting of the National Association, which occurs September 7th, 8th, and 9th, is for the first time in the history of the association, a Southern city—Nashville, Tenn. The great exposition will be in progress at that time, fares will be lower than ever before, the veterinarians of the State and neighboring States very earnestly importuned the committee to decide in favor of the exposition city, and the REVIEW thinks the selection will prove a very popular one. The Southern field possesses many possibilities for this profession, and the presence of the National Association below Mason and Dixon's line will do a great deal toward realizing these possibilities.

VETERINARIANS IN THE STATE MILITIA.—In New York State a veterinary surgeon connected with the militia has the rank of sergeant, and is termed a veterinary sergeant, which is a non-commissioned and insignificant office. A movement is now on foot to raise his position to that of lieutenant, a post of dignity and commission. This elevation can be secured by alteration of the military code by the Adjutant-General of the State. An application to secure this result has been endorsed by Captain Clayton, of Troop C; by General McAlpin, late Adjutant-General of the State; and by General McLeer, commanding the Second Brigade, who has forwarded it to Adjutant-General C. Whitney Tillinghast, whose favorable consideration is confidently anticipated. Few opportunities for advancement of the standing of the profession are now being neglected by its intelligent members.

ORIGINAL ARTICLES.

[Written specially for the American Veterinary Review.]

THE BOARD OF HEALTH AND TUBERCULOSIS.

By A. S. Heath, M. D., V. S., Prof. of Hygiene, Breeding, etc., at the American Veterinary College, New York.

No. I.

The statement of the Board of Health that "tuberculosis is an infectious disease" is not a theory of the medical profession, but a fact demonstrated by Koch, and confirmed by scores of earnest and reliable pathological investigators.

Immediately after Dr. Koch had discovered the tubercle bacillus in 1881, and hoped that, by a sterilized culture he termed tuberculin, tuberculosis might be beneficially treated, many credulous physicians seized upon the hopeful anticipation as a settled fact, and used the tuberculin in every case that would submit to the hypodermic treatment, and the failure was almost universal.

Except in local lesions of the disease, few cases were permanently benefitted. Sanitariums for the "cure" of consumption quickly sprung up in many sections of the country. In all of the announcements of these establishments special stress was laid upon the healthfulness of the localities. The air, water, temperature, altitude, and telluric conditions were all dwelt upon as essential aids in the tuberculin treatment, and especially were these concomitants made prominent inducements in the "cure," when the faith in the tuberculin treatment flagged. My late lamented friend, Prof. Alfred L. Loomis, has proved conclusively that there is great virtue in the proper climatological conditions for the treatment of pulmonary affections, as shown in the Adirondack and Sullivan County regions.

But hygienic or preventive medicine justly claims precedence over the treatment of disease. This is demonstratively the case in infectious maladies. This is the special province of all boards of health. These organizations are designed to protect the public health, and, like all other human organizations, they are liable to errors of judgment. Their errors are legitimate subjects of criticism, while their general usefulness to the public should be commended.

It has been stated that "consumption" follows the cow. This is true of the people who also suffer from the evils of civilization. In this disease, the relation of human tuberculosis to the cow, and of animal tuberculosis to man is, doubtless, a source of mutual infection. Though we do not know as a historical fact whether tuberculosis was at first transmitted to man from the cow, or to the cow from man, yet we do know that these transmissions of disease are mutual in both ways. But in consequence of the fact that tuberculous cows yield a large product of infectious milk and meat, the human consumers of these products suffer infinitely more from animal infection than the bovine race can from human infection. Besides, the infection from man to man in all possible ways of this fearful scourge is sadly prolific. If tuberculosis destroys one-fourth of the adult population of the United States, boards of sanitation should receive every possible aid from the public to curtail its ravages. Though heredity, if at all, may be a source of the spread of consumption directly, yet it is a source rife in the transmission of debilitated constitutions which cannot resist tuberculous infection. Hence the widespread tendency susceptible to infection. It is in this direction that the boards of health fail to prevent the spread of animal tuberculosis. Public sentiment, as yet, will not tolerate the regulations of marital hygiene. But in the breeding of domestic animals, sound health, when legally demanded, will largely prevent the transmission of feeble constitutions that readily yield to infectious diseases. In France, diseased or feeble stallions are not permitted to procreate and transmit evil constitutions and diseases.

In 1890, I visited Europe, and wrote a series of ten letters for the New York *Tribune*, in one of which, after a careful and extensive study of the Cotentin breed of cattle of Normandy, I commended those noble, strong, healthy and robust cattle as the hope of the great dairy industry in the United States. Free from tuberculosis and other diseases, these large, vigorous animals, with a grand record of great milk, butter and beef production of surpassing excellence, after a few importations, were unfortunately interdicted by the Secretary of Agriculture. Fortunately, a fine herd of Normandys, imported by Mr. Chester W. Chapin, is doing most excellent service in a few of the finest herds of dairy cattle in the country. One of Mr. Chapin's herds in Sullivan County are proving the sanitary influence of that healthy location, as well for the vigor and large products of the cattle, as also of its good effects upon the delicate health of the human species. This is a beneficial result of climatic conditions for the dairy that the late Prof. Loomis may not have conceived, though he so well knew the hopeful sanitary results from the recent cases of consumption in the human race. Similar localities having the same hygienic conditions as Sullivan County should be utilized for dairy purposes for the supply of butter, milk and meat for children, families and hospitals. This method, with proper and thorough sanitary inspection, including the demand for perfect health of all breeding animals (the breeding being separated from the dairy proper), should markedly decrease tuberculosis in Greater New York.

Reference has been made to the Normandy cattle because of their general health and hardiness. These qualities may be found in the several Swiss breeds, the Jerseys, the Guernseys, the Holsteins, the Ayrshires, the Dutch-Belted, the tough little Brittanys, the Shorthorns, the Red-Polleds, the Devons, the Herefords, the Aberdeen-Angus, and many of the native breeds, for the special excellences of the dairy or for beef products. But health and vigor should be demanded for every kind of animal industry, and especially in the breeding herds. In all these breeds, suitable and healthy animals may be selected from the several herds for the special products.

Physiological breeding, feeding and care will soon eradicate tuberculosis from all our herds. The rich, nutritious grasses of our high and healthy pastures, where the cattle are out of doors six or seven months of the year, with proper shelter nights, and during cold storms, and in winter, where the animals have good food, good water, cleanly stables, good, kind care, all possess sanitary influences that must insure sound, healthy animals and pure sweet products, that shall insure health-yielding nourishment to consumers. Unless the dairy is thus protected, consumption will increase instead of decreasing. Prevention—hygiene—is indispensable in the eradication of infectious diseases. If we cannot, or will not, institute rigid hygiene for the dairy, the only other safe alternative is the universal establishment of the goat-dairy. Goats do not and cannot be made to suffer from "consumption." Goats' milk and butter are rich, nutritious and healthful. Horses do contract tuberculosis, and should not be used for the cultivation of serum for the treatment of "consumption." The health of the goat as compared to that of the horse is infinitely superior. The blood of the goat is pure and healthy. That of the horse becomes sadly depreciated under the lack of care, and the constant drain from the system in cultivation of tuberculin serum. The horse suffers seriously from repeated operations, both in hypodermic injections and in the repeated opening of the veins for the abstraction of blood. The goat bears these operations very much better, and does not suffer in health. In healthful localities where the people largely subsist on the milk and meat of goats, and fresh vegetables, tuberculosis is rare. And cases occurring may be generally traced to the bad health of parents, thus fulfilling Scripture views of heredity.

Veterinarians, skilled in the knowledge of animal hygiene and breeding in all their broad scope of usefulness, must largely form the serviceable members of boards of public sanitation. For these invaluable services the public is indebted to the invaluable teachings of our colleges of comparative medicine throughout the country. Nor do I underestimate the profession of human medicine in the hygiene of the public health, having been a member of that profession for more than fifty-three years, and a teacher in the schools of comparative medicine for over twenty years. Added to these professionals, men of sound business capabilities are indispensable in the formation of the most serviceable boards of health.

(*To be continued.*)

THE EXAMINATION OF HORSES FOR SOUNDNESS.

By A. J. Burkholder, D.V.S., Staunton, Va.

A Paper read before the Virginia State Veterinary Medical Association, at Staunton, Jan. 5, 1897.

The examination of horses as to soundness is a function in which every practitioner shares to a greater or lesser extent. Like many other callings, it is one demanding for its efficient performance a large and varied experience of horses in general, as well as a full share of that higher technical training which scholastic study affords. The responsibility which attaches to this department of our work is rapidly becoming more and more recognized and insisted upon by those in whose interests we act. The marked and rapid increase in the quality of our horse stock arising out of improved methods of breeding, and a more painstaking system of rearing, has very naturally led to an increase in their value. With an increase in value there has very naturally arisen a desire on the part of the purchaser to guard against imposition and the many possible disappointments and losses which attach to the purchase of horses. It is mainly on this account that the services of the qualified veterinarian are now so much more in request than they were formerly, but there is also a decided tendency on the part of dealers to evade the responsibilities of "warranty," and to throw the entire responsibility upon the surgeon. This should be taken as a high compliment to the veterinary profession that purchasers so readily accept this new state of things. By so doing they have declared confidence in the integrity and skill of our craft, and it is a matter of congratulation that whereas our law courts were formerly besieged by litigants seeking redress on account of real or supposed misrepresentation, such cases are now, comparatively speaking, rare. I cannot help but feel that this more satisfactory state of relations between the vendor and the purchaser is, in a large measure, due to the services rendered by our profession in the exercise of their judgment as to soundness, and upon which purchasers are now content to rely without any guarantee from the vendor.

It cannot, however, be overlooked as previously observed, that this increase of public confidence has brought with it a corresponding increase in our responsibilities. Circumstances which have recently occurred in connection with several members of our profession have clearly demonstrated this. Serious claims have been set up against veterinarians on account of losses sustained by reason, as has been alleged, of their negligence, or want of skill and judgment. And since the verdict of a jury is as uncertain as continuous health and soundness, we must feel a deep sense of insecurity in regard to this branch of our work, and it is to this fact that I wish to direct your attention.

No one who has had any experience in the examination of horses can have failed to recognize the trying circumstances under which we are often expected to exercise this branch of our calling. In no other profession is there a duty so peculiar in its nature, or so precarious in its consequences. It is not with an inanimate machine that we have to deal—whose every part may be disconnected, scrutinized, and tested ; but a living, complex, ever-changing organism, exposed to and influenced by ever-changing conditions of environment and purpose ; and in a large measure also by the abuses of human vice and folly.

In proceeding to deal with this subject, it is desirable at the outset to consider the nature of the duty involved, and in doing so we must first, I think, repeat the question so often asked—What is soundness? It has been laid down, and is generally believed that "sound" means "perfect." To this definition I take no exception in the abstract, but if it is the standard to be recognized in dealing with horses, then it will be obvious at once that we can no longer hope to speak with authority on the subject.

The vital machinery of the animal organism is hidden away from us, and, except so far as objective physiological signs, cannot be scrutinized. I say, therefore, that this definition of soundness imposes upon us a duty and responsibility which we are not warranted in accepting. We cannot reasonably certify to the physical perfection, or durability of any essential part that lies hidden from view, because of the fact that slight structural changes or traumatic injuries may exist at the time of examination, which may soon afterwards give rise to serious functional, systemic, or organic disease. Further, such a definition is so exclusive in its application to horses as practically to dispose of the necessity for any examination at all, as such a thing as perfection, even in the accessible parts of a horse at the working period of life, is quite phenomenal. Many members of our profession seem to ignore this fact by claiming that soundness implies that an animal must be practically sound ; that even if some abnormal condition exists which does not impair his usefulness he must be considered sound. According to this definition the meaning of soundness is the capability of an animal to perform such work as it is best fitted to perform by virtue of its size, build, and general character. This creates a vast discrepancy in the literal and legal sense of the term, and the unfitness of either to the requirements of a rational and consistent system of horse inspection and certification, which needs at this time our serious consideration. Shall we discard this portion of our practice on account of the litigation arising from such diversity of opinion, or shall we adopt a form of certification which, by its literal and legal construction, will not only relieve us from censure and responsibility, but afford our clients sufficient protection? The usual fee demanded for examination is wholly inadequate for any special warranty of soundness. Why, then, should we assume such a position? If we are forever afterwards subject to costs incurred defending ourselves against persons who, by reason of their inability to place the proper value upon an animal, set up claims of unsoundness at the time of purchase, had we not better look well to our interest and obviate any trouble that might arise by misinterpretations and misconstructions by courts and juries ?

I will submit a form of certification which will, in my opinion, give to our clients all that should be expected from the hands of an honest, conscientious practitioner.

CERTIFICATE OF EXAMINATION.

Issued to Mr. ———— upon the following described animal : Sex, gelding. Age, 6 years. Color, dark bay. Points, 2-inch star. Scars, 2-inch on right forearm. Height, 15. 1 hands. Breed, Hambletonian. Class, American roadster. Having made a careful and complete examination of the above described animal, I hereby certify that I fail to detect any unsoundness. Given under my hand this the first day of January, 1897.

————————

This form of certification permits and encourages the practice of fraud and deception on the part of unprincipled persons, I will admit—but in all such cases redress can be had in our courts. The laws of our State are sufficiently severe on such culprits, and should be promptly enforced in all such cases, but in all cases where honesty of purpose prevails no responsibility should be implied. We cannot vouch for the honesty and integrity of the surgeon, neither can we assume to testify as to his skill in this important branch of our practice, but this risk should be taken by the client. We are supposed to possess that higher degree of trained powers of observation requisite to perfect knowledge of the anatomical structure, and normal function of every part of the animal economy. This superior ability may be conceded to the most learned of our profession, but even the most skilled are often unable to meet the contingencies liable to occur under exciting influences.

THE ILLINOIS HUMANE SOCIETY during the last ten years has relieved 7118 horses from abuse by brutal drivers ; has caused 2133 to be laid up from work as unfit for it ; has removed 1401 disabled animals in ambulances, and destroyed 2347 by shooting.

SOME INTERESTING CASES IN PRACTICE.

By Dr. H. A. Spencer, Sacramento, Cal.

A Paper read before the California State Veterinary Medical Association at San Francisco, Dec., 1896.

Mr. President and Gentlemen:—Our worthy Secretary having notified me of my selection as one of the essayists for this meeting, and the said notification coming to me as it did in the midst of an astonishing augmentation of my practice, and therefore finding me limited for time, I must crave the indulgence of those of you who may never have heard one of my lamentable efforts at essay-writing for submitting them to the ordeal; the other members will need no fortifying, as past experience has undoubtedly taught them, as it has myself, that my attempts at scientific discourses are signal failures.

I will, therefore, confine myself to relating my experience with a few cases whose symptoms are new to me, although perhaps they may be common to the rest of you.

The first disease that I shall attempt to describe, I will designate for the lack of a better name as "Pneumo-Hepatitis." The first symptom noticeable is a general languor, the animal does not drive with its accustomed spirit, is dull and listless, soon loses its appetite; there is a hard, loud rasping cough developed. About this time the owner or attendant, becoming alarmed, calls in the veterinarian, who will find the pulse hard, small and running at from about fifty-six to sixty-six beats per minute, the temperature registering from 104° to 106.2°, and in one instance that came under my observation it ran as high as 108°; the breathing is rapid and labored; upon auscultation and percussion a dullness is discerned all over the lung surface, but the lungs do not seem to be badly inflamed; the throat is often quite sore and a mucilaginous discharge about the color of the yelk of a soft-boiled egg issues from the nostrils; the mouth, eyes and nose are yellow, and pressure over the region of the liver produces pain; the urine is scanty, high colored and mucilaginous; fæces small and hard; the acts of defecation and micturation seem to cause distress; the appetite is capricious or entirely suspended, and the patient will stand for hours with its mouth in a pail of water, sipping from time to time with evident difficulty. The animal loses flesh very rapidly, one mare losing nearly two hundred pounds in three weeks. As the disease progresses the patient becomes rapidly weaker, the temperature begins to fall, the eyes have a staring, wishful appearance, legs commence to stock, and the animal staggers and seems to nearly lose the use of its hind legs; in fact, must be assisted by steadying him by the tail if it is desirable to move him in the stall, and even in cases of recovery this unsteadiness and staggering may last for a week after all other symptoms have disappeared. Sometimes a convalescent in trying to play will fall. An animal afflicted with this disease never lies down until he falls from exhaustion, when, after making several ineffectual efforts to rise, dies in convulsions.

Post-mortem reveals the lungs inflamed to a greater or lesser degree, the air-cells and bronchi filled with a frothy, yellow fluid, the liver enlarged, engorged and friable; the pleura, peritoneum, stomach and intestines inflamed; the blood is black and coagulates slowly, and in a very little time the carcass will smell as badly as if the animal had been dead several days.

During the past summer I saw and treated as many as fifty cases of this peculiar disease, and lost about ten head, among them a very valuable mare of my own.

The treatment that has proved most successful in my hands is to apply a light counter-irritant over the chest and throat, keep the extremities warm and the body well clothed, turn the patient into a warm, well-ventilated box stall, and give one ounce of quinine sulphate twice daily until the fever subsides to 103° or less, then give tinct. nux vomicæ and fluid extract of digitalis, of each a half drachm, every two hours, and spirits vini rect., two ounces, largely diluted, every four hours; occasional doses of potassa acetate, dissolved in a bucket of water, assists in lowering the temperature and stimulates the action of the kidneys. They should be induced to take some nourishment; very often they can be tempted to partake of a little lettuce, carrot-tops or milk-weed when they would refuse anything else.

One patient of mine whose temperature was never higher than 106° recovered in two weeks, but was so emaciated that it took three months to get her in a condition fit to hitch up, while another belonging to a physician had a temperature of 108°, by his own and two other thermometers, made a complete recovery and was at work in three weeks.

My own mare was taken sick while at pasture and had probably been ill a week when I found her; she had a filly three months old by her side; it took me three hours to lead her three miles, and she died the fourth day after her arrival at home; we did not deem it advisable to take the colt away from her, as it seemed to fret her to have it out of her sight, and although it continued to nurse it seemed to derive no bad effects from either the milk (which was of course scanty) or its association with its mother. The mare's temperature was 106.2° when I found her, and it gradually subsided until the night before her death it registered at 97°.

Another rather unusual case recently came under my observation, in a large black gelding of about twelve years of age. He was hitched to a phæton and was being driven in a funeral procession when he suddenly developed a severe lameness in the near hind leg or foot, and seemed in great agony, kicking the ground with that foot continually. The gentleman driving him made as careful examination of the foot as was possible under the circumstances, and finding nothing with great difficulty succeeded in getting him to our infirmary, the horse getting worse all the time, so that upon his arrival it was only by exercising the utmost care and prudence that we were enabled to unhitch him from the vehicle without getting injured ourselves. His suffering was something remarkable, and while we were endeavoring to remove the harness he threw himself repeatedly, and when placed in a box he continued to throw himself, and while on his feet would kick most viciously with the affected leg; finally the agony was so intense that he would lie and strain as though trying to pass fæces, and the urine dribbled away; the perspiration now broke out profusely, covering the entire body except the near hind leg and quarter, which was perfectly dry and very cold, and though he could kick wickedly with it he was entirely unable to sustain any weight on it. As his pain increased he became apparently blind and would run into the wall and throw himself in the most reckless manner. I diagnosed the case as one of thrombosis of the femoral artery, but as there seemed to be some difficulty with the brain, which I attributed to the intense pain, I gave him four drachms of potassium bromide; it, however, produced no effect, and I then gave subcutaneously two grains of sulphate of morphia, which seemed to have the desired result, and the pain ceased. The next morning he was apparently all right, except that he was somewhat lame, but this disappeared after a short walk; this being described to me as only one of several attacks of the same character. I advised the owner when he came for him never to use him again for carriage or driving purposes.

Another case to which I shall call your attention was that of epilepsy in a Yorkshire terrier bitch; she was in a wretched condition, and would eat scarcely anything; she had one or two epileptic fits daily; she had one as the owner was lifting her out of the buggy to leave her with me. I gave her a dose of physic and followed it with small doses of bromide of potash; she improved in her appetite and was gaining flesh, and for a week I felt that her recovery seemed quite likely, but on the morning of the eighth day she had a very severe fit and screamed like a cat; she never really regained consciousness, and died that night.

Two other cases of interest have come under my observation, which I shall not undertake to name. The symptoms in case No. 1, which was a grade Jersey cow, were as follows: She had calved within a week, but had not passed the fœtal envelope. I removed the placenta; the patient seemed to have spasmodic contractions of the muscles of the jaws, and kept up a continuous champing; she could eat and drink but little. I prescribed fluid extract of gelsemium in one-ounce doses, every three hours, to stop these spasms, and it had the desired effect, but the cow was still unable to eat anything except gruel and perhaps a little grass if placed in her mouth, the power of prehension apparently being lost. On examination I found that the epithelium on the nose, lips and tongue was very sore, and had the appearance of having been burned; the skin on her teats was in the same condition. I prescribed a wash of sulphite of soda, which I afterwards changed to borax, and in a few days the epithelium pulled off the nose, bars of the mouth, end of the tongue and teats. About this time she became lame, especially in the front feet, examination revealed the same condition to exist between the digits, the borax wash was resorted to, and she made a complete recovery in a few days. The other case presented the identical symptoms, except that it occurred in a heifer with her first calf, and that the after-birth was passed naturally, and she appeared to be in perfect health for a month, when she suddenly developed the symptoms as related, and under the same treatment made rapid recovery.

Now, gentlemen, in thanking you for your considerate attention, I would ask that you freely express your views on these cases, thus affording the writer the benefit he has sought to draw from you by recounting his experience.

ACETANILID (OR ANTIFEBRIN).

By F .S. Allen, M.D., D.V.S., Philadelphia.

A Paper read before the Pennsylvania State Veterinary Medical Association.

Acetanilid was first employed in medicine by Cahn and Hepp. It is a white crystaline substance, readily soluble in water; when taken into the mouth it causes a burning sensation, which, however, is very slight. It is almost if not quite tasteless; is, therefore, not disagreeable to take. Dr. Wood describes it as bitter and piquant in taste. Acetanilid has long been known to the chemists, and is made by the action of glacial acetic acid upon anilin. Antifebrin is the name given to this drug by a certain firm who have exclusive control of all manufactured and sold under that name, hence it demands a higher price. In prescription-writing, we should therefore write for acetanilid as a matter of economy, and because it gives equally good results.

Drs. Hare and Wood, of Philadelphia, Pa., have conducted numerous experiments, both physiologically and clinically, with this drug, and it is from their works published I have drawn much of the material for this paper.

Physiological Action.—1st. Upon the nervous system it acts as a sedative, quieting the sensory portion of the nerves and spinal cord. In large, poisonous doses it produces anæsthesia, a total loss of reflex action, and motor and sensory paralysis. Dr. Hare claims that the sensory side of the spinal cord and sensory nerves are first affected, and later the motor apparatus, and that the muscles are influenced by the poison only indirectly.

2d. On the circulation it has but little effect, unless used in large and poisonous doses. In such cases there is an immediate fall of arterial pressure, with a diminution in the size of pulse wave, and all the evidence of cardiac and circulatory depression, although death is said to result from respiratory failure. The cause of this fall of blood-pressure is said to be due to the direct depressing action on the heart, associated with the vaso-motor system, as asphyxia causes no rise in pressure. In medicinal doses there may be either an increased or diminished pulse rate. Its action upon the blood in large doses is said to be marked, causing it to become brownish-red in color, decreasing its ozonizing and oxygen-carrying power, and finally reducing largely the hæmoglobin to methæmoglobin. Its action upon corpuscles is undetermined, some claiming they are disorganized, others that they are not. Dr. Hare claims that in moderately large poisonous doses, the drug may not affect the corpuscles, but if continued for some days, or if a very large dose be used at one time, the corpuscular destruction is certain to occur, and the free hæmoglobin appears in the urine, that the normal alkalinity of the blood is lessened, the urine becoming dark in color.

3d. *Respiration.*—Acetanilid given in small doses is said to have no action upon the respiration, but in large poisonous doses it at once produces a more rapid breathing, which soon becomes labored. Death is said to result from these large doses, by paralysis of the respiratory centres, and the primary causes are the alteration in the blood, the want of oxygenation of the tissues, and at the same time the depressing action of the drug itself. Baker asserts that the drug also paralyzes the peripheral motor nerves.

4th. *Temperature.*—On the temperature Dr. Hare claims that the drug acts, when given in full medicinal doses, to lower the normal temperature, or fails to produce any change. In poisonous doses it produces a decrease in temperature depending on the amount employed, and may produce collapse and rigors. On fevers he claims that it acts as a powerful and fairly constant antipyretic, lowering the fever by decreasing heat production, and increasing heat dissipation, heat production being the function most affected.

The Kidneys.—As to its action upon the kidneys, there is much dispute, but it is agreed that the excretion of urine is increased, and from excessive doses the urine becomes dark, it is said, from broken down blood-coloring matter.

Elimination takes place through the kidneys, as para-phenol-sulphate. As an antiseptic it is slightly so when used freely. I have used it but little, preferring to use others that are better, as iodoform, etc.

Toxic changes from prolonged use are claimed to occur, such as congestion of the liver, kidneys and spleen, and from poisonous doses it is said clots may be found in the cardiac cavity, and a progressive decrease in the red blood corpuscles.

Therapeutical Actions.—In the use of the drug much depends upon the condition of the animal and the disease from which it suffers. Although a powerful antipyretic, in some diseases it has apparently little or no action or influence upon the temperature, the duration or general course of the disease. In some cases I have known the temperature to continue to rise, when given often and in full doses, and on change of treatment the temperature would fall. This was noticeable in typhoid conditions. Acetanilid, I find in sthenic fevers, is one of our most reliable drugs for reducing the temperature, and, it would seem to often shorten their duration. In debilitating or asthenic diseases, it has little or no effect on the temperature or general course of the disease. In these diseases, when used, there is great depression and danger of collapse. Good results are claimed from its use in rheumatism, epilepsy, gastralgia and sciatica, etc.

In the winter of 1892 and 1893, I collected a few notes of cases treated by myself with acetanilid. While they are not as full and complete as I wish they were, they will help to illustrate its action, etc.

Case No. 1.—Temperature 107⅖° ; fall in less than 24 hours to 102°, or fall of 5°.

Case No. 2.—Temperature 104° ; fall in less than 24 hours to 100⅗°, fall of 3⅖°

Case No. 3.—Temperature 107° ; fall in less than 6 hours to 105⅗°, fall of 1⅖° ; first day, fall in less than 24 hours to 104°, fall of 3° ; second day, fall to 102⅖°, fall of 1⅗° ; third day, fall to 100⅗°, fall of 1⅘°.

Case No. 6.—Temperature 105° ; fall in 24 hours to 100⅖°, fall of 4⅗°.

Case No. 7.—Temperature 104⅕° ; fall in 24 hours to 100⅕°, fall of 4°.

Case No. 8.—Temperature 106⅖° ; fall in 24 hours to 104°, fall of 2⅖° ; second day, fall to 101⅗°, fall of 2⅖°; third day, fall to 100⅗°, fall of 1°.

Case No. 9.—Temperature 103° ; fall in 24 hours to 100°, fall of 3°.

Case No. 10.—Temperature 105° ; fall in 24 hours to 103°, fall of 2° ; second day, fall to 100°, fall of 3°.

Case No. 11.—Temperature 105° ; fall in 5 hours to 104⅖°, fall of ⅗° ; fall in less than 24 hours to 102 ⅗°, fall of 2⅖° ; normal on the sixth day.

Case No. 5.—Temperature 104° ; increased to 105° in five hours, rise of 1° ; it then began to fall and became normal on the sixth day ; it fell $2\frac{4}{5}$° on the fourth day, and fell $1\frac{4}{5}$° on the fifth day.

Case No. 12.—Temperature $106\frac{1}{5}$° at night ; in the morning $105\frac{2}{5}$° ; on the second day, $105\frac{2}{5}$°, fell in 24 hours to $104\frac{1}{5}$, fall of $1\frac{1}{5}$; on the third day, $104\frac{1}{5}$°, rises to $104\frac{4}{5}$,° $\frac{3}{5}$° rise ; on the fourth day, $104\frac{4}{5}$°, falls to $103\frac{1}{5}$°, fall of $1\frac{3}{5}$° ; it then began to fall gradually for six days. Acetanilid is removed, when the temperature begins to rise, continuing for two days, when it again falls gradually for two days and again rises till it reaches $103\frac{4}{5}$°, then falling to nearly normal, when recovery takes place.

Case No. 13, Typhoid ; bowels affected.—Temperature $106\frac{4}{5}$° at night ; in twelve hours reduced to 102°, a fall of $4\frac{4}{5}$°. On the second day temperature $100\frac{4}{5}$°, fall of $1\frac{1}{5}$°. The temperature continued at about 101° for a number of days. Acetanilid was removed at the end of the first day. Laxatives, stimulants, and alteratives given in its place. Recovered.

Case No. 14, Typhoid ; lungs affected.—Temperature at noon $106\frac{3}{5}$° ; at 6 P. M., 106° ; at 8 P. M., 108°. Acetanilid given for one day, when it was discontinued. Ice-water baths were introduced—three times a day, from one to one hour and a half, at times only half an hour. Stimulants,—alcohol in drink—alteratives and laxatives at times. Recovery in twelve days.

Case No. 15, Typhoid.—Temperature 107°, fall in 24 hours to 106°, fall of 1° ; second day, fall to $104\frac{3}{5}$° fall of $1\frac{2}{5}$° ; third day, fall to $104\frac{}{5}$° fall of $\frac{1}{5}$° ; fourth day, rise to 105°, rise of $\frac{3}{5}$° ; fifth day, rise to 106°, rise of 1° ; sixth day, fall to 105°, fall of 1° ; seventh day, fall to 103°, fall of 2° ; eighth day, fall to 101°, fall of 2° ; ninth day, fall to 103°. Dead.

Case No. 16, Typhoid.—Temperature 105°, no fall first day ; no fall second day ; fall on third day to 104°, fall of 1° ; fall on fourth day to $103\frac{2}{5}$°, fall of $\frac{3}{5}$° ; fall on fifth day to 103°, fall of $\frac{2}{5}$° ; fall on sixth day to 102°, fall of 1° ; fall on seventh day to $100\frac{3}{5}$°, fall of $1\frac{2}{5}$°. Taken out of my hands. My medicine continued to the last day, once in four hours ;

stimulants, etc. The case died after leaving my hands, some three or four days later. My successor having exercised him by walking him to the yard and back, etc. All stimulants and medicine removed for about one day. I informed the owner the horse would die as a result. When I left the owner the doctor in charge stepped in, and informed the owner that the animal would recover. The animal died while Dr. No. 2 was reporting the case. I attribute it to over-exertion, etc.

Most of the cases were those of influenza, many of them young and green horses. Acetanilid was used in drachm doses and in combination with the fluid extract of belladonna, tincture nux vomica, tincture cinchona, and alcohol. This mixture was given every three or four hours. In some cases I continued this mixture for six days, where fever so indicated and I felt it was doing no harm. At other times it was used only one day, and followed with nitrate of potassium in drinking water. In other cases ammonium chloride, pulv. nux vomica, quinia sulph., etc., were given in bolus. In some cases I found the pulse became soft in character, there was at times great depression and weakness, the number of pulse beats falling below the normal, as was the case in No. 1; there were also others. In other cases the pulse became intermittent. This I noticed mostly in typhoid diseases, in what is called pleuro-pneumonia contagiosa, etc.

I have used acetanilid in drachm doses, every three or four hours, for twelve days, and in a few cases even longer, without any bad results.

This drug should be used with care, however, to prevent any accident that might otherwise occur. I can recall two cases, one in my practice and one in my friend's practice. My friend had just left the stable after giving a very favorable prognosis, that the animal would recover, and it was doing nicely, when it dropped dead. In my case the horse was small; the drug had been given, as was my custom, night and day, every three or four hours; the animal was doing well, when last seen, the day before, but the treatment was to continue till the next day. On calling the next morning, to my surprise, I learned the animal had died during the night, and had been removed. In my case I felt that the drug should have been discontinued the night before, and it is possible by so doing the animal would have lived.

I find that there is a tendency to over-stimulation of the kidneys at times, and later to a suppression of the urine ; also that these cases as a rule terminate fatally.

I have made it a rule of late to use acetanilid for twelve to twenty-four hours in all doubtful cases having a high fever, and thus learn if indicated or not.

I believe in full doses, and think it should be given once in four hours, if we wish to obtain the best results. Eisinhart claims that small repeated doses are useless. He says they should be given in large full doses and at one time, and if no fall in temperature occurs, resort to some other treatment.

TOE-CLIP INJURIES.

By James A. Waugh, V. S., Pittsburgh, Pa.

A Paper read before the United States Veterinary Medical Association at Buffalo, Sept. 3, 1896.

These are due mainly to accidental errors in farriery, and are caused generally by excessive paring or cutting away of the antero-inferior part of the sole and cutting a nick in the toe of the hoof-wall for the reception of the toe-clip, which is occasionally hammered into position firmly by a large hammer while the foot is resting on the ground surface or shop floor. It occurs in one or both front feet, and occasionally one or both hind feet are affected, but it is most common in front feet. I have seen it resulting from small, medium and large toe-clips. This peculiar form of injury generally causes considerable uneasiness and altered action in the affected foot or feet within a few days or a week after shoeing, and if neglected or overlooked for several days, may result in extensive inflammation, exudation and suppuration followed by unfavorable results or even death. Horses and mules are alike sufferers, but the former are less able to withstand the pain and annoyance of it. Mules usually make a favorable but slow recovery. The most prominent symptoms are apparent uneasiness and pain in the affected foot or feet, and altered or modified action in motion or changed position at rest.

The condition and appearance of the shoes will assist in confirming the diagnosis. The advanced or well-marked symptoms are incidental with the above-named, but in an aggravated form, and where only one fore-foot is affected there will be a well-marked disinclination to bring the foot and limb backwards, and the lameness and suffering will appear greatest or severest when the foot is brought back to a level or line with its mate and bearing equal weight. When at rest the foot is elevated at the heel and rests tightly on the toe, while the scapulo-humeral angle is reduced, the elbow much lowered, the knees bowed forward, with back tendons tense and prominent, and the limbs apparently lengthened wonderfully. When both fore-feet are affected the patient stands with his feet well set apart and shifts the weight frequently from one foot to the other and rests the limb in a modified form, as above described. The hind feet are occasionally affected, and are advanced well under the body in the early stages if both feet are involved in the injury; but if only one foot is affected, then it is usually elevated and rested off the ground or floor surface. The fore seem more prone to this injury than the hind feet. Loose and ill-fitting shoes occasionally slip backward, and the toe-clip works inside the hoof-wall at the union of anterior part of sole and may cause serious injury, especially in aged horses at hard work in cities. I have seen a few cases where the farrier put on short shoes rapidly without fitting, and the toe-clip was allowed to penetrate the parts just described, but lameness soon resulted, and we discovered the cause and removed it in due time. It appears that these accidents are most common among company horses and mules shod by incompetent men who have never served a regular apprenticeship to the trade; in fact, never learned it,—just picked it up in a half-hearted manner or self-learned style.

Treatment should be based on modern surgical principles. Remove the exciting cause and apply cold or hot baths or medicated poultices to the feet, and, if deemed necessary, put the patient in slings or trevit.

It is sometimes necessary to make an opening at the anterior border of the sole and postero-inferior border of the toe to allow the escape and drainage of serous exudation or pus.

The treatment will be a minor affair when one acquires sufficient knowledge and clinical experience enough to diagnosticate a case.

There appears to be a dearth of literature on this subject in our veterinary text-books in this country, and I asked for a little information about it from a veterinarian who had been a horseshoer for twenty-five years, also a student at two veterinary colleges and graduated from one, and he candidly admitted that he had never seen a case or ever heard of a case of toe-clip injury, and his father had been a horse-doctor and horse-shoer for over sixty years. Therefore, I deem it advisable to present brief reports of several cases from my own private practice.

Case No. 1.—Clyde mare, owned by a capitalist and located on a farm eighteen miles from the city. She was shod and put to work early in the springtime, and became very lame in the right fore-foot. A city veterinarian was summoned, but was too busy to attend, yet he promised to send the writer, but was dilatory and busy and overlooked it. Then another one was called, but he, too, was too busy for a country trip, but promised to send a better man. They both called me about the same time, and I hastened out and found the patient suffering severely and unable to eat any food. The foot was very hot and painful, tendons and ligaments tense at the back of the knee; knee bowed forward; elbow lowered; scapulo-humeral angle reduced and limb apparently much elongated, with the heel elevated and the foot resting lightly on the toe. The blacksmith was a very careful young man, and had removed the shoe and searched every nail hole for pricks or binds, but without avail, and the foot was poulticed. It was a very fine animal and had excellent feet. The foot-searcher indicated soreness at the union of the sole with the toe, and we pared away until a dark serous fluid escaped freely from the injured part; then we injected it with a creolin lotion and dressed with poultice and sock; gave canabis indica and belladonna internally to relieve the suffering and soothe the patient. Applied hot fomentations and poultices; also creolin lotion injected freely into the wound. I revisited the case in a few days and found the limb greatly swollen, appetite very meagre and temperature 102° Fahr. Hot fomentations were applied freely and often to the limb and foot, but treatment proved of no avail, and the patient died in a few days, presumably from septicæmia or pyæmia. I observed that this animal had a very fine, thin skin, with corresponding thin-shelled hoofs and soles, and the blacksmith had used very large toe-clips on account of fearing the shoes would be easily pulled off while working on limestone soil and muddy roads.

This case set me to thinking, studying and working to learn more by careful observation.

Case No. 2.—A fine roadster was hired by an oil producer to drive eighteen miles over plank road into an oil field. The horse was so lame the next day on the return trip that it became necessary to leave him at a roadhouse five miles from the city, and the driver came in and reported the bad condition of the horse.

The owner directed me to examine carefully, and if the horse was permanently disabled with the injury he would then prosecute under the Livery Act. I found a new set of much lauded Goodenough shoes on the front feet, and the left fore-foot affected as described in this article. I used the whip freely and drove one mile to a blacksmith shop, removed the shoe, and dark serum flowed out, as mentioned, even without cutting, and we enlarged the opening, injected creolin lotion, and plugged the opening with a piece of marine lint; shod with a slipper, drove into the city, then applied the treatment indicated in this article. Result: Recovery after twenty-one days treatment and loss of services.

Case No. 3.—A large, heavy draught mule had been newly shod by a strange blacksmith. Shoes were removed on account of lameness and then reapplied by the same man. Owner finally called me to see the patient after another doctor had been unable to determine what was wrong. The owner even asserted uncharitably that the other man was unable to regain a condition of sobriety or good sight. However, I found pus oozing out at the anterior middle part of the coronary band and the heels of both fore-feet, great uneasiness, much suffering, and loss of appetite, and the owner expected fatal result in this case and was angry.

Treatment was same as before recommended in this article. Result: Recovery after two months' treatment and four months' illness, loss of services, etc.

Case No. 4.—Gray gelding, used in an express wagon; patient lame in left fore foot or limb, but the blacksmith claimed it was in the shoulder, while others said elsewhere. Owner said a doctor must settle the dispute and save all useless experiments on his property. It was late in the evening and dark, so I decided to withhold my opinion and diagnosis until we could meet at the horse-shoer's shop at eight A.M., the next day, but I happened to be out late that evening, and did not get around on time, but the blacksmith removed the shoe, trimmed the sole, and found exudation and pus due to toe-clip injury, and had the case nicely demonstrated on my arrival. Treatment was same as heretofore except leather sole was used between foot and shoe for a few weeks after resuming work.

I could cite several other interesting cases, but these will illustrate my remarks and perhaps induce others to make observations and report their cases for professional advancement.

ABORTION AMONG THOROUGHBRED MARES.—The epidemic of slipping foals is said to be on the increase in Kentucky and many of the breeding farms have already lost heavily by the scourge and there seems to be no positive means of checking the calamity. Seven of the choicest mares at the Castleton Stud of Messrs. J. R. & F. P. Keene are reported as slipping, and the studs of Jas. Galway, F. B. Harper and C. B. Hawkins have suffered greatly from the trouble.—(*Breeders' Gazette.*)

REPORTS OF CASES.

ENTERALGIA AND GASTRALGIA.

By Bryer H. Pendry, D.V.S., Brooklyn, N. Y.

I was called in to see a medium-sized driving horse, about ten years old, said to be suffering from colic, on January 4th, and received the following history: The horse had been working along as usual with no indication of any trouble until the night previous; fed him that night and next morning; noticed that he was uneasy, getting up and down repeatedly, biting his flanks, foaming and showing signs of general pain, but persistently lying upon the left side. Examination revealed nothing in particular, except evidence of pain upon pressure over the region of the flanks, but was informed that the animal always had been touchy at that point; noticed a marked swelling along the superior cervical verterbra, as if the animal had been hit or had bruised himself, but there was no sensitiveness upon pressure. No elevation of temperature whatsoever. Bowels in perfect order. In fact, frequent and of a nice medium consistency. Pulse very weak and quick. At times the animal was perfectly easy, and then again showing signs of extreme pain.

Put the patient at once under drachm doses of the fluid extract of cannabis indica, with no appreciable benefit. Intermittent improvement only, which continued for one week. All this time the animal was eating very little; in fact almost nothing.

On the 11th we had a consultation with a neighboring practitioner, with no very satisfactory result. Course of treatment was now changed to fl. ext. belladonna, in two-drachm doses, for twenty-four hours, and patient showed marked signs of improvement, as far as controlling the pain, but only while under large doses of the drug.

On the 12th we had a consultation with another veterinarian, and after a most careful examination decided that we had a case of intestinal neuralgia with recommendation of a continuation of same medicine, but of course in smaller, continued, doses.

All this time the animal had been eating nothing, and at last tried boiled ground flaxseed, when the animal seemed to start in to take some nourishment, he having gone nearly ten days with hardly anything to eat, and several times during this period the pulse would seem to stand still, and at no time was there the slightest elevation of temperature. The patient went along until the 17th in the same way, at which date the pulse became better and he began to eat a little, and from then on he gradually improved until the 28th, when he was discharged. Once or twice during this time the animal was noticed to stagger, just as if drunk, upon which the belladonna was stopped, with a cessation of mentioned symptom. The drug was only continued when the patient showed signs of recurrent pain, which gradually disappeared altogether. The horse is now as well as ever.

It was one of those cases that after working for over a week at something you hardly know what, helps one to realize how little, at times, we know.

INVERSION OF UTERUS—AMPUTATION BY A NOVICE—RECOVERY.

By John Minchin, V. S., Goshen, N. Y.

The subject was a two-year-old heifer, with calf. She had been turned out in some back lots, with other dry stock, about one mile from her home. When found by some hunters that were looking for game, their attention was called by the other cattle bellowing and fighting around her. These parties reported at the house of the owner, who sent his hired man for her in the afternoon. She was found down, and hardly able to rise, with a very large bull calf at her side. The whole uterus was inverted. It took all the afternoon to get the animal to the house, she being in a very serious state of prostration. I was called, and arrived at the place just at sundown, Nov. 17, 1896. I found the patient in rather low condition, and hardly able to stand. The organ was smeared all over with dirt, with many lacerations, and very cold. I told the owner I did not think I could render any service, and refused to act, especially as the animal could not be induced to stand. The owner asked me if I could not cut it off, and, if so, what were the chances of recovery, etc. I said that it could be done, but in my opinion the chances of recovery were very slight, and I did not wish to put him to any expense, and left. On our way to town I was asked what I thought would be the result if he (the owner) were to cut off the mass and try the experiment. Of course, I told him I did not know ; he could do as he had a mind to. And so he did. That night, without any ligature, he took a "butcher's knife," and amputated the whole organ, put all the chloride of lime on he could, and left her. And under this treatment by her owner, to my surprise, the case made a good recovery. I have had to do with many cases of this kind, and notwithstanding that I employed my best ability, I have saved but very few; which proves to science that nature is the great hand-maid of fortune.

ACTINOMYCOSIS IN THE HORSE (?)

By W. P. STRANGHAN, D.V.S., Stamford, N. Y.

A four-year-old colt was found with a temperature of 103°; impossible to get pulse on account of maxillary swelling, but heart was beating 80 times a minute. The principal symptom was great swelling of the tongue, it protruding from the mouth about three inches, enormously swollen, and of a dark color. He died after a two days' treatment with hypodermic injections of a solution of iodine and iodide of potash. I called it actinomycosis.

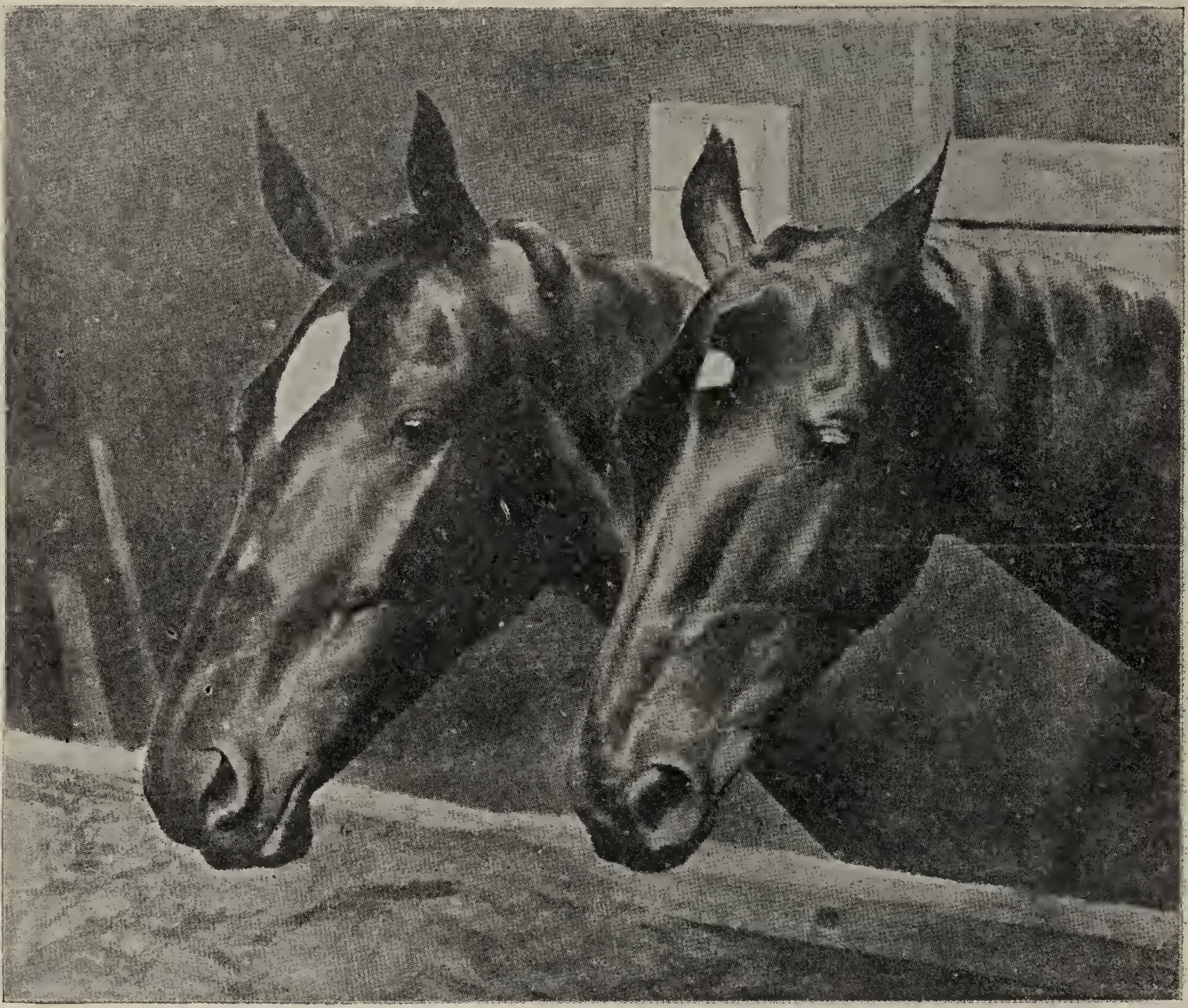
AN UNTOWARD RESULT FROM THE USE OF BARIUM CHLORIDE.

By W. P. STRANGHAN, D.V.S., Stamford, N. Y.

I have been using chloride of barium as a cathartic—sometimes to my advantage, at other times to my great regret. I have employed one gramme to fifteen of water, and have injected it into the jugular vein. In some cases it produced a great amount of sloughing; in one case it sloughed off the jugular vein, and the patient bled to death.

INTERNATIONAL CASE OF IDENTITY OF A HORSE.

It is reported from Berlin that Robert Kneebs, the American driver, has been once more convicted of the crime of ringing Bethel, 2:16¼, as the mare Clara Chatham, no record. The history of the case is shortly as follows: In 1894, Kneebs took several trotters to England, Bethel included, and after racing there for one season, went to Hamburg and Berlin. In both of these cities he represented Bethel to be a green horse, and secured the customary credit in distance at races, thus fraudulently winning about 8000-9000 marks. German horsemen at once claimed that the mare was not green and quietly secured evidence in the United States, by which they had Kneebs arrested and prosecuted, and although he made a gallant fight, in which money was not spared, he was convicted. He then appealed, and in the meantime the German Government despatched Prof. A. Eggeling, of the Royal Vet. College, Berlin, to the Lakefield farm, Nebraska, where Kneebs claimed Bethel



A STUDY IN IDENTITY—CLARA CHATHAM AND BETHEL, 2:16¼.

(*From the Horseman.*)

to be. Prof. Eggeling examined the horses at the farm, took photographs and secured other evidence, and upon his testimony the higher court now sustained the first conviction.

It is certainly of special interest to us that the German Government, in order to establish the identity of a horse, despatched a veterinarian as special envoy thousands of miles into the heart of another country, and entirely relied upon his evidence in a case in which the defendant continually objected to the expert-testimony of veterinarians, maintaining that in the United States they are not asked in such matters. Kneebs may alter his opinion of veterinarians, and we sacredly believe that he has had a fair trial at the hands of the foreign government.

VETERINARIANS OF GREATER NEW YORK, why not send your names to Dr. R. W. Ellis, Secretary, 531 W. 152d Street, New York City, for an application blank and join the Veterinary Medical Association of New York County?

BILLS BEFORE THE NEW YORK LEGISLATURE.

STATE OF NEW YORK.—NO. 231.—IN ASSEMBLY.

AN ACT

IN RELATION TO THE APPOINTMENT OF A STATE VETERINARIAN, AND DEFINING HIS DUTIES.

The people of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. The Governor shall, with the advice and consent of the Senate, within ten days of the passage of this Act, appoint a State Veterinarian, who shall hold office for the term of three years ; he shall be a regularly graduated veterinary surgeon of not less than ten years' continuous practice in this State, and shall be skilled in veterinary science ; he shall be a member of the State Board of Health, which membership shall be in addition to that now provided by law ; he shall receive from the State Treasurer the sum of three hundred dollars per month and his actual expenses incurred while in the discharge of his duties, which shall be presented under oath and covered by written vouchers before receiving the same.

SEC. 2. It shall be the duty of the State Veterinarian to investigate any and all cases of contagious or infectious diseases among domestic animals of the State which may come to his knowledge or be brought to the notice of the State Board of Health or Commissioner of Agriculture, and for this purpose shall visit at once any locality within the State where any such contagious or infectious disease of domestic animals may be reported to exist, and make a full and careful examination of all animals supposed to be diseased, and to inquire into the nature and cause of any such disease which he may discover, prescribe the proper care, necessary remedies, and direct the sanitary measures necessary to prevent the spread thereof; to see that all State laws relating to infectious and contagious diseases of animals are enforced, and to make up a full report of his findings and doings in the premises, with recommendations and suggestions as to the means necessary to be employed to prevent the spread, and best calculated to exterminate any and all such contagious or infectious diseases by him found to exist among the domestic animals of the State. All cases of tuberculosis in animals, or any infectious or contagious diseases of domesticated animals that may be brought to the notice of the State Board of Health or Commissioner of Agriculture, shall be referred to him, and he shall be placed in charge of any work that is undertaken by either the State Board of Health or Commissioner of Agriculture to eradicate tuberculosis or any infectious or contagious diseases of any animals, and make a full report of the same to the department which has placed him in charge thereof.

SEC. 3. All Acts or parts of Acts in conflict with any of the provisions of this Act are hereby repealed.

SEC. 4. This Act shall take effect immediately.

STATE OF NEW YORK.—NO. 614.—IN ASSEMBLY.

Introduced by Mr. HANNA—read once and referred to the Committee on Public Health.

AN ACT

TO AMEND CHAPTER THREE HUNDRED AND THIRTY EIGHT, LAWS OF EIGHTEEN HUNDRED AND NINETY THREE, ENTITLED "AN ACT IN RELATION TO AGRICULTURE, CONSTITUTING ARTICLES ONE, TWO, THREE, FOUR AND FIVE OF CHAPTER THIRTY-THREE OF THE GENERAL LAWS," AND TO AMEND CHAPTER SIX HUNDRED AND SIXTY-ONE OF THE LAWS OF EIGHTEEN HUNDRED AND NINETY-THREE, ENTITLED "AN ACT IN RELATION TO PUBLIC HEALTH, CONSTITUTING CHAPTER TWENTY-FIVE OF THE GENERAL LAWS," AND TO REPEAL CHAPTER TEN HUNDRED AND THIRTEEN OF THE LAWS OF EIGHTEEN HUNDRED AND NINETY-FIVE, ENTITLED "AN ACT TO AMEND THE PUBLIC HEALTH LAW IN RELATION TO THE APPOINTMENT OF A SPECIAL COMMITTEE TO THE STATE BOARD TO INVESTIGATE THE DISEASE OF TUBERCULOSIS."

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. Section sixty of chapter three hundred and thirty-eight, laws of eighteen hundred and ninety-three, is hereby amended so as to read as follows : Whenever any infectious or contagious disease (except tuberculosis or glanders), affecting domestic animals shall be brought into or break out in this State, the Commissioner of Agriculture shall take measures to promptly suppress the same and prevent such disease from spreading.

SECTION 2. The following sections of chapter six hundred and sixty-one, laws of eighteen hundred and ninety-three, entitled "An Act in relation to the public health, constituting chapter twenty-five of the general laws," are hereby repealed, namely: Sections sixty, sixty one, sixty-two, sixty-three and sixty-four.

SECTION 3. Chapter ten hundred and thirteen, laws of eighteen hundred and ninety-five, entitled "An Act to amend the public health law in relation to the appointment of a special committee of the State Board to investigate the disease of tuberculosis," is hereby repealed.

SECTION 4. All Acts or parts of Acts inconsistent with this Act are hereby repealed.

SECTION 5. This Act shall take effect immediately.

STATE OF NEW YORK.—No. 619.—IN ASSEMBLY.

Introduced by Mr. HANNA—read once and referred to the Committee on Agriculture.

AN ACT

TO AMEND CHAPTER THREE HUNDRED AND THIRTY-EIGHT OF THE LAWS OF EIGHTEEN HUNDRED AND NINETY-THREE, ENTITLED "AN ACT IN RELATION TO AGRICULTURE, CONSTITUTING ARTICLES ONE, TWO, THREE, FOUR AND FIVE OF CHAPTER THIRTY-THREE OF THE GENERAL LAWS."

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Section sixty-four of chapter three hundred and thirty-eight, laws of eighteen hundred and ninety-three, is hereby amended so as to read as follows:

SECTION 64. Employment of veterinary surgeons.—The Commissioner may employ such and so many [medical and] veterinary [practitioners] *surgeons* and such other persons as he may from time to time deem necessary to assist him in discharging the duties imposed upon him by this article and may fix their compensation. [All persons now employed by the governor for such purposes shall continue in the employ of the Commissioner upon the same terms, until such employment shall be terminated or modified by the Commissioner.] No animal shall be destroyed by the Commissioner, or by his order on the ground that it is a diseased animal, unless first examined by a [medical or] veterinary [practitioner] *surgeon* in the employ of the Commissioner under this section, nor until such [practitioner] *surgeon* renders a certificate to the effect that he has made such examination, that in his judgment such animal is affected with a specified infectious or contagious disease, or that its destruction is necessary in order to suppress or aid in suppressing such disease, or to prevent such disease or to prevent the spread thereof, specifying the reasons for such necessity. *The New York State Veterinary Medical Society shall at each annual meeting nominate three veterinary surgeons, residents of each agricultural division respectively. The names of such nominees shall be annually transmitted under seal by the President and Secretary prior to November first to the Commissioner of Agriculture from which list the veterinarians employed by the department shall be selected.*

AMERICAN HORSES IN GERMANY.—A despatch to the New York *Herald* from Berlin, Feb. 1, says: "The Prussian Minister of Agriculture has recently altered the regulations for the importation of American horses. The executive authorities have been instructed that, henceforth, American horses are to be kept isolated at the ports of entry for eight days. After veterinary inspection during that period they are to be free for sale or inland transport, if the veterinary surgeons declare them free of infectious diseases."

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By W. V. Bieser, D. V. S., New York City.

Fistula of the Pharynx.—The animal was a five-year-old brown mare. The patient was placed under the author's care to be cured of continual coughing and failure to triturate her fodder properly. The mouth felt hot and slimy, pulse was accelerated, nasal discharge, and a hard painful swelling in the submaxillary space; cough was dry, strong and frequent; in short, the symptoms of acute adenitis. In the next four days the swelling began to surround the pharynx and as it became larger the abscess was lanced and about a tablespoonful of pus emptied itself, leading the author to infer that the worst was over and that recovery was near at hand. The mare did improve for a few days, but then the pharynx in its anterior aspect began to enlarge as if a new abscess was in process of formation there. The swelling was hard and tender, and most distinct midway between the ear and angle of the jaw. In a few days the swelling increased and spread downward from the pharynx. In spite of daily examinations no traces of softening or fluctuation showed themselves; the breathing became more and more harsh, threatening tracheotomy. Upon the eleventh day examination showed that the skin had given way at the most dependent portion of the swelling, exuding a moist discharge. Enlarging the opening a small quantity of sour smelling well-chewed fodder could be removed. This fodder was squeezed so compactly in the abscess cavity that a forceps and dull sound were necessary for its removal. Although the mass removed was small, a large cavity remained behind. The mare was very much emaciated before this but from now on improved, the harsh breathing subsided, the cough diminished day by day. The extent of the swelling did not shrink, although its cavity as well as the swelling of the neighboring parts did; the abcess cavity began to granulate, leaving only the faintest trace of an opening. Through the opened wound no more food passed, but the discharge continued, showing the color of the food masticated, being green after green fodder had been chewed. After nine weeks at the hospital the animal was discharged. The presence of a cavity in front of the pharynx was especially noticeable after drinking from a trough, when after each mouthful of water a swelling manifested itself in this region. After two weeks more this symptom subsided, only a small ridge remained as evidence of the former cavity. *Treatment:* At the beginning an electuary, consisting of kali chloras and belladonna, was placed upon the tongue and a warm sponge to the pharynx. The opening was at first treated with carbolic acid in oily solution and upon the appearance of the cavity a silver nitrate solution was injected, but without success; eventually the cure resulted without further treatment.—(*Oest. Monatschr. fur Thierhlk u. Revue.*)

ACTINOMYCOSIS OF THE TONGUE.—The patient was a cow. The tongue was hard and immovable. The patient received twice daily 4 1-6 g. of iodide of potash. The tongue soon shrunk in size and again became movable, but a rash showed itself over the entire body, a complication generally met with. The iodide of potash was then given every third day and cure resulted fully. In all 120 g. of iodide of potash was used.—(*Berl. Thierärzt. Woch.*)

ERADICATION OF HERPES-TONSURANS.—The stalls are at first cleansed with soap and water and then scrubbed thoroughly with a one per cent. sublimate solution. A mixture of hydrargy. bichlor. corros., one part, and ol. juniperi, 500 parts, is then applied freely. One application is as a rule sufficient.—(*Berl. Thierärzt. Woch.*)

FELINE DIPHTHERIA.—Three Persian cats, eight months old, of the same stock, sickened March 4th and died between the 8th and 9th days of the same month. They presented the following symptoms: Rough and unglossy hair, nasal discharge, fœtor, dilated pupils, noisy respiration on opening the mouth, failure to voluntarily close the mouth after it had been opened, inflammation of the soft palate, occasional vomition, refusal to take milk. The author after death opened two cadavers, finding diphtheritic membranes in the pharynx and larynx. As G. was of the opinion that the disease was similar to human diphtheria he sent the unopened cadavers as well as the opened ones to Prof. McFadyean for his opinion. McF. failed to find the diphtheritic bacillus, finding instead micro-organisms similar both in their form and their effect upon agar to the staphylococcus pyogenes albus. Efforts to infect other cats with milk containing pieces of the false membrane also failed. The author has frequently observed this malignant angina in Persian cats, solitary cases becoming chronic in character. These chronic cases always showed a harsh cough.—(*Berl. Thierärzt. Woch.*)

ABSCESS OF THE TONGUE IN A HORSE.—The horse was unable to swallow, the tongue protruded, and, though it could not be withdrawn, it could easily be moved laterally without any effort. Examination revealed a fluctuating swelling at the base of the organ. The swelling was freely lanced and a quantity of bloody pus exuded. The animal made a quick recovery. The cause of the above condition remains yet to be explained.—(*Berl. Thierärzt. Woch.*)

ŒSOPHAGEAL POLYPI IN A COW.—S. was called to see a cow that had lain down and could only be made to rise with the utmost difficulty. The cow had been fed on pears only for several days past. *Symptoms.*—The respirations were noisy and laborious; the entire body was covered with a cold, clammy sweat; peristalsis entirely suspended; a hot and painful swelling showed itself over the œsophagus. A drench of water was given and immediately regurgitated. A diagnosis of foreign body in the œsophagus was made and slaughter advised. *Autopsy.*—Two polypi in the œsophagus a little below the larynx, one the size of a pigeon's egg, the other that of a pea; beside the former a half of a pear was firmly embedded.—(*Berl. Thierärzt. Woch.*).

SUCCESSFUL RESULTS OBTAINED BY A NEW DUSTING POWDER, GLUTOL.—Glutol is prepared by drying dissolved gelatine over formalin vapors and then disintegrating the dry product by rasping. It is non-poisonous and promotes aseptic healing; the itching accompanying the healing process is slight or absent, and in consequence the animals do not disturb the healing process by licking, etc. The appended cases responded successfully to its use. 1. A foal had both knees broken badly. The wounds were daily washed with creolin, dressed with iodoform-tannin, and firmly bandaged, but without any appreciably good results. The wounds were then washed with a creolin sotion and glutol applied without bandages. The wounds dried nicely, and after a week required no further treatment. 2. A hound had a movable tumor about the size of a hen's egg, under the skin above the right eye. After extirpation the wound cavity was plugged and bandaged. The dog persisted in ridding himself of the bandage at every possible opportunity and scraping the wound with his paws. The cavity was well washed, dried, filled with glutol and no bandage applied. This treatment was repeated once or twice by the owner. The wound healed rapidly, scarcely leaving a perceptible scar. 3. A terrier had its foot severely cut with glass. The wound, neglected for several days, gaping, purulent, and full of sand, was cleansed with creolin and dusted with glutol. The edges were drawn together with catgut sutures and bandaged. On the third day the wound was again cleansed and dusted. On the tenth day the stitches were removed and no further treatment was considered necessary. 4. A horse through the negligence of its driver was allowed to step in a glowing heap of birch-wood and was severely burned on all four legs. The hair was singed off as far as the hock and knee. The animal suffered severely, stopped feeding, and would not lie down. The legs were cleansed, dressed with iodoform-tannin and bandaged. The pain continued and a few days later the parts were suppurating freely. They were then dusted thickly with glutol and no bandages applied. The appetite returned the next day. The wound was afterward dried with cotton and again dusted. In a short time afterward the patient could be exercised and recovery rapidly ensued. 5. The diseased skin of a horse subject to eczema, was cleansed, dried, and covered with glutol to about the thickness of the blade of a knife. Complete recovery was effected in a very short time. 6. A 5-year-old cart horse received a lacerated wound on the inner side of the metacarpus, 12 cm. long, 6 cm. wide. The exposed bone, to the extent of 6 cm. 3 cm. was stripped of its periostium. The wound was cleansed with creolin, covered with glutol and bandaged. The bandage was changed daily and finally removed on the eighth day. In about 4 weeks the lost tissue was regained and the granulations were normal. 7. A 10-year-old cart horse with a punctured wound made with a fork, in the upper portion of the biceps femoris muscle. Had been treated by empirics for five days with carbolic acid injections. The horse was unable to sustain any weight upon the leg. Swelling reached the hock. The wound was cleansed with creolin and glutol applied by means of an insufflator. The swelling subsided in a few days, and the wound healed rapidly. In four weeks he was put in harness again. 8. A heavy draught horse with a punctured wound on the inner side of the leg, a little above the hock. The wound was about an inch wide and extended about two inches down to the tibia. The region was much swollen, and an abundant serous discharge. No weight could be borne on the leg. The parts were thoroughly irrigated and a bougie of glutol (glutol, 1 part, cocoa butter 20 parts, castor oil, q. s.) inserted. In eight days the swelling subsided; the wound healed normally, and in six weeks the horse was again at work.

9. A 10-year-old cart horse with a punctured and lacerated wound, 8 cm. deep, in the posterior third and lower portion of the abdomen. The swelling extended to the sternum. The wound was irrigated with creolin and tampons of cotton applied to stop the hemorrhage. 150 grains of glutol were kneaded into a mass with a few drops of creolin solution and pressed into the wound. The swelling subsided in five days, in ten days the animal resumed its work. 10. T. tried glutol in the form of vaginal balls (glutol, 1 part; cocoa butter, 20 parts; castor oil, q. s.) on five cows in a stable in which all calves had succumbed through diarrhœa. Five weeks before calving each cow received a vaginal ball twice a week; they were well retained. The genitals were washed weekly with a 3 per cent. solution. Four of the calves born showed no symptoms of the disease; one had a slight attack of diarrhœa on the third day, but recovered rapidly. The calves of the other cows not treated, died of the disease. 11. An 8-year-old mare with a narrow fistula 25 cm. deep in the left shoulder. Dilatation of the canal enabled S. to remove a piece of wood 3 cm. long and ¼ cm. thick. The wound was irrigated with 1-1000 sublimate solution and tamponed with loretin gauze. Repair was slow. The tract was curetted, well washed and packed with glutol. This was renewed every second day. In eight days the depth of the fistula was 8 cm. from the surface, and soon closed up entirely. 12. A 5-year-old black mare, with a punctured nail wound in the direction of the coffin joint, an aggravating case. *Treatment.*—Enlargement of the opening, removal of sole and plantar cushion, irrigation, the insertion of a sublimate stick, and covering with an aseptic bandage. There was continued fever and suppuration. The wound was again enlarged, filled with glutol, and a permanent bandage applied. The dressing was changed every three or five days; the wound was washed with clean water, the sloughing tissue removed and again filled with glutol. Three weeks later the patient was shod and could be used for light work. 13. A 9-year-old gelding with a punctured wound caused by a splinter of wood in front of the stifle joint and from which a synovia-like fluid exuded. The opening was washed with warm water and filled with glutol; the whole was hermetically sealed with collodion and cotton. This was renewed daily; complete cicatrization in ten days without any signs of suppuration at all. 14. A five-year-old brown gelding with a neglected excoriation; a hot, painful, phlegmonous swelling around the necrotic area, lymphangitis of the

withers, fever, and anorexia. A portion slightly larger than the necrotic area was removed and filled with glutol, the whole being covered with collodion and cotton. The next day the appetite returned, fever was gone, swelling had subsided, and the lymphatics were no longer visible. Cicatrization was complete on the sixth day. On the eighth day our patient was ready for work.—(*Berl. Thierärzt. Woch.*)

FORMALIN AS A DISINFECTANT.—Walter, in his experiments to determine the bactericidal power of formalin, reached the following conclusions, viz.: 1. A solution of formalin 1-10,000, checks the growth of bacilli of anthrax, cholera, typhoid, diphtheria, and stapylococcus aurens. Dilute vapors of formaalin have the same effect. 2. Pure cultures of pathogenic germs are killed in an hour by a 1 per cent. solution of formalin. This effect is more marked in dilute alcoholic solutions. 3. A 3 per cent. solution of formalin disinfects the hands thoroughly. Further experiments are necessary to determine any injury to the skin from its use. 4. Cloth and leather goods are disinfected in 20 hours by formalin in powder, without any appreciable injury. 5. Fæcal matter is instantly deodorized by a 1 per cent. solution of formalin. Such matter is rendered sterile in ten minutes by a 10 per cent. solution.—(*Zeit. f. Hygiene u. Infkrk.*)

FORMALIN AN EXCELLENT REMEDY IN FOOT AND MOUTH DISEASE.—In March, 1896, when the epidemic of foot and mouth disease existed and spread so rapidly and extensively among the draft oxen in Freden, District Veterinarian Rühmekopf tried formalin. The mouths and feet of the animal were cleansed once a day with a one-half per cent. solution of formalin. The wounds were washed with a one-fifth of one per cent. solution of the above remedy and the hoofs were painted with wood tar. By means of an atomizer the stalls were disinfected with formalin vapor. The epidemic lasted 14 days, during which time the oxen did not refuse fodder for a single day, and suffered little or none from the epidemic whatever. R. succeeded in confining the outbreak to a *single* stable, though in immediate neighborhood of others. This was accomplished by watering the manure, etc., with a one-half per cent. formalin solution.—(*Zeit. f. Hygiene u. Infkrk.*)

A VARIETY OF BACILLUS ANTHRACIS.—Chauveau and Phsalix in their experiments upon Guinea pigs with weak cultures of anthrax bacillus, found new cultures of bacilli which in no respect resembled morphologically the cultures of anthrax bacilli so far known. For example, they found bacilli resembling nails whose morphological characteristics were the following: They possessed mild virulence; they caused fever in the animals experimented upon only when injected in enormous quantities; they possess no immunizing power against the disease anthrax; after repeated trials, it was found that their morphological characteristics remained unchanged.—(*Berl. Thierärzt. Woch.*)

AMERICAN REVIEW.

Necrosis Totalis of the Scapula.—A valuable roadster stallion had been kicked a few days before Dr. J. D. Nighbert, of Pittsfield, Ill., was called in, and on examination he found a a small wound of the integument and tissues at lower point of shoulder, near termination of spine; lameness excessive; temperature 103°; swelling of entire shoulder, but better marked around the point; a slight bloody discharge from the wound. Exploring with probe found lower point of process fractured as well as outer plate of neck of scapula. Removed several thin pieces of bone, ordered hot applications to entire shoulder, and thorough cleansing of wound three times a day with bichloride solution. Internal treatment, potassium nitrate, ʒ ii, twice a day in drinking water, rectal injections of warm water; this was continued six days. Swelling and temperature kept increasing; discharge from wound fœtid. On seventh day fluctuating swelling just back of wound, which, being freely opened, several ounces of very fœtid pus escaped. From general swelling of entire shoulder and character of discharge a diagnosis of total necrosis of scapula was made and unfavorable prognosis given; treatment was continued, as it was hoped to make him useful for breeding. Drainage tubes were inserted, and thorough washing three times a day. Swelling subsided where abscesses were opened, but near cervical angle a like abscess formed, was opened and treated as others. Pus continued to flow freely from all openings. In four or five days a like swelling appeared at dorsal angle, and another at tuberosity of spine, which were opened. Horse now began to show some improvement, but great quantities of pus continued to flow from openings. Being able to walk some, owner took him home, two or three miles, and began to treat him himself. In ten or twelve days wounds almost healed, leaving small fistulous openings which did not permit pus to discharge freely enough, and there appeared swelling in region of lower third of ribs just back of elbow, which gradually extended to sheath, and owner thought it needed opening, so plunged knife in softest place, getting copious flow of pus, but severing large branch of external thoracic artery. He was destroyed, scapula secured, showing a remarkable deposit of lime salts.—(*Jour. of Comp. Med. and Vet. Arch.*)

OUTWARD LUXATION OF THE FEMUR.—A four-year-old mule had this history: Five weeks before, while playing, stepped on corn-cob, fell, and was unable to rise. When gotten up, right hind leg was shorter than left one. In day or so decided swelling about hip, which on applying liniment disappeared in three weeks. Brought to clinic, and found following condition: Leg abnormally adducted, toe barely touching ground, supporting some weight; excessive atrophy of gluteal muscles; a prominence (palpation proving it to be the trochanter major of the femur) was seen postero-superior to the cotyloid cavity. Flexion of stifle and hock-joints limited, while abduction of limb was quite impossible. Rectal examination negative. Diagnosis, rupture of ligamentum teres and outward luxation of femur (luxatio supra cotaloidea).—(*W. E. A. Wyman, V. S., in Jour. Comp. Med. and Vet. Arch.*)

ACUTE NEPHRITIS IN A HORSE.—James McDonough, D.V.S., Montclair, N. J., sends the following account of a case that puzzled him to the *Veterinary Magazine* for December: Patient was a gray mare which owner thought had worms. A local druggist gave him eight powders, each containing fifteen grains of santonin, one drachm of calomel and six minims of oil of wormseed. Animal received one powder a day for six days, was driven on the seventh day. He reported that she did not seem as well as usual and was unusually thirsty. On eighth day she did not eat, seemed stupid and was taken with a profuse diarrhœa, which continued all that day and the following night. I was called on morning of ninth day and found her lying, with symptoms of abdominal pain. On compelling her to rise, I saw that she moved with some difficulty and seemed to be stiff all over. She was much excited, respiration quick and irregular, pulse rapid, soft and weak, temperature 103.4; a profuse, dark, watery discharge from bowels every fifteen or twenty minutes. Upon leaving her she would immediately lie down and after turning her head nearly to her flank would stretch out on her side, extend limbs and throw head far back. These symptoms continued for three hours, when she died. *Post-mortem.*—Lungs much congested and dark-colored; liver very dark; right kidney apparently normal; left kidney showed every appearance of acute nephritis. Heart seemed normal; widespread emphysema of lungs, kidneys, heart, liver and peritoneum; liver and lungs presented patches of emphysema six inches in diameter; stomach and intestines filled with dark fluid having a very offensive odor; mucous membrane of small and large intestines dark in color and covered with thick layer of mucus; fat in and about abdominal muscles unusually yellow and easily torn. I submitted a portion of all the organs, with some of contents of stomach and bladder, to a chemist and bacteriologist, Dr. David H. Baldwin, of Montclair, who stated that after submitting the organs to the usual tests, he failed to find any trace of mineral poison of any kind; under microscopic examination the kidneys showed marked structural change; urine was impregnated with albumen, tubular casts were present in enormous numbers and cells from the deeper portions of the uriniferous tubules; presence of urea in liver and kidneys in undue amount indicated uremia. In his opinion acute nephritis and uremic poisoning were present.

CORRESPONDENCE.

THE BILL TO CREATE A NEW YORK STATE VETERINARIAN.

BROOKLYN, N. Y., Jan. 26, 1897.

Editors American Veterinary Review:

DEAR SIRS:—I trust you will allow me, through the valuable medium of the REVIEW, to acknowledge publicly the authorship of the bill now before the New York legislature, creating the position of State Veterinarian. I have decided to do so by this means, and not to individual members of the profession, after its introduction, so that it could be criticised without a knowledge of its source, and, having heard some criticism, chief of which seems to be the fear that by reason of so many bills extending privileges to those anxious to enter the profession by legislation instead of education, that this might be one of those bills leading up to the same sort of thing or something worse. Having been engaged continuously in cattle practice for seven or eight years, first under the United States government, and now by the Brooklyn city government, I have naturally become interested in the cattle industry of our own State, and by reason of my official position in this city I have been painfully brought to the conclusion that there was no official veterinarian who could be referred to—as in other States—as to the health of cattle in other parts of the State from whence part of our milk supply comes, no practical veterinarian who was interested in that branch of the profession, who had the authority and could legally incur the expense of investigating any reported trouble, or even suspected trouble, and report to those directly interested.

Some three years ago, the New York State legislature considered it worth their while to create a commission at an expense of ten thousand dollars to investigate and find out the extent of tuberculosis in that State. They reported 6.92 per cent. of the whole of the cattle in the State affected with tuberculosis, and then rested. Following that I drew up a bill, which was introduced and referred to the proper committees, creating a Bureau of Animal Industry, placing the whole of the cattle industry of the State under its care, and if possible eradicating tuberculosis. I went before both house committees in Albany, made eight trips there at my own expense and failed to make even one position, let alone two in each county. It was claimed it was too expensive. Thinking it was best to get the thin edge of the wedge in first, I drew up the bill now under discussion, and showed it to the then leader of the Assembly (Mr. Ainsworth), who seemed to think that that would be the better way to attack the matter. It, however, was too late in the session to get a bill through, so that the second bill as then drawn up is the one now introduced by Mr. Hughes. So much as to the history of the matter.

Now, as to some other objections. It is claimed that this bill takes the work out of the hands of the Commissioner of Agriculture, and places it in those of the State Board of Health. Those who make such objection are unmindful of the fact that by the very act that created the former office, he is exempted from taking up the question of tuberculosis; that that question rests in the hands of the State Board of Health. The bill now introduced provides that either of those departments who may have knowledge of any trouble among the domestic animals of the State, shall refer the matter to the State Veterinarian, who shall report back as to facts, with recommendations as to action to that department which has referred the matter to him. The bill provides also that he shall be a member of the State Board of Health. It's only a question of being a member *de jure*, instead of *ex officio*. He would and should be consulted, and considering the great part comparative medicine plays in public health, it should receive that recognition it so rightly deserves and be allowed to take its seat in the council of those who up to the present have considered they alone were able to discuss matters relating to the public health.

I think I need hardly say that whenever there has been a fight that had for its object the advancement of the veterinary profession I have always been on the fighting side, though not always successful, and often getting more abuse than praise, the same as when I was successful in getting the first bill passed legalizing the practice of the profession in this State. I was told I had done more harm than good. I advised them to wait and be satisfied that the thin edge of the wedge was in. There was nothing to prevent them driving it as far as they could, and look where it has been driven to now. Is there any State that has a better law regulating the practice of veterinary medicine? I have one idea of this life, and that is, if you cannot get all you want, take what you can get, and wait for the rest.

Yours very truly,

W. H. PENDRY, D.V.S.

MALLEIN VINDICATED.

BROOKLYN, N. Y., Feb, 12, 1897.

Editors American Veterinary Review:

On the 19th of November, 1896, one of the officers of the American Society for the Prevention of Cruelty to Animals, of which I am Veterinary Inspector for Brooklyn, brought to my hospital, in harness, a gray gelding, the same being in his opinion a suspicious case of glanders.

The history of the case as given to me by the driver was to the effect that for the past six months there had been a continuous discharge from the near nostril, and that the horse had been professionally treated, during that time, for catarrh. Also, that the Veterinary Inspectors of the Board of Health had previously pronounced the animal as non-glandered, and with their sanction the same was put to work on our public streets, thus necessarily coming in contact with scores of horses every day, and who can estimate the final result of such inexcusable carelessness?

Upon thorough and minute examination, I pronounced the case one of chronic glanders, and the driver was instructed to return the horse to the stable of the owner, with the directions to have him isolated as a dangerous animal, awaiting the action of the Society for the Prevention of Cruelty to Animals.

On the afternoon of the same day the case was examined by the Veterinary Inspectors of the Health Department. Again their decision was "non-glandered," and the owner was permitted to once more send this diseased animal forth into our public streets.

As the only object of this article is to prove the efficacy of mallein as a diagnostic agent in glanders, my surprise at this most unexpected and inexplicable stand taken by our worthy and responsible Board of Health officials need not be here discussed; I may perhaps be permitted to confess that this wholesale overruling of the decision of the S. P. C. A. official veterinarian, without even a consultation, was rather remote from what one would naturally expect.

However, incredibility followed upon the heels of astonishment when I was informed, just at this time, that the animal which I had condemned upon mere physical examination, had frequently been submitted to the mallein test by the Board of Health, and in their hands had at no time shown the slightest reaction. I very much questioned the thoroughness of the test in their hands, as my faith in mallein as a sort of "Röentgen Ray" in searching out glanders, was founded upon practical experience in my own practice.

The next step proposed in this most interesting case was, I am informed, brought forward by the professional attendant, sanctioned by and with the coöperation of the Department of Health. It was a most strikingly novel one—because of its antiquity! Behold, there was to be procured an aged horse, a young rabbit and a middle-aged guinea-pig for the purpose of inoculation! Surely, an antediluvian mode of procedure, and one can almost fancy a scramble through the ark in quest of the sacrifices. In justice, let us add that, fortunately, this proposal was not executed, but such was the serious consideration of the above gentlemen.

The next information which reached me in regard to the case in question, was the removal of the affected animal to the American Veterinary Hospital, where, under the direction of that body, the horse underwent the mallein test, which immediately reacted to such a degree that the subject was destroyed. I, knowing nothing of this final step until after the test and the destruction of the animal had transpired, was, of course, not present to witness this confirmation by mallein of my previous decision upon mere ocular examination; but I had an opportunity of seeing the chart, which amply vindicated mallein against former imputations, as there was registered a reaction up to 107; and the post-mortem examination exhibited the characteristic lesions of pulmonary glanders.

Thus we trace the history of one horse through several months. Professionally, it cannot but be regretted that owing to the carelessness or ignorance of men acting in the capacity of public officials, scores of horses and their attendants (as this scourge is fatal to man and beast) should be placed in jeopardy by the dissemination of this dread disease by one affected animal upon our public thoroughfares when modern science has given to our profession an agent so sure, so trustworthy, and I do not hesitate to say so infallible as the subject of this article —*Mallein.*

L. McLEAN, M. R. C. V. S.

SOME VETERINARY THOUGHTS FROM DOWN IN DIXIE.

NEW ORLEANS, LA., Jan. 27, 1897.

Editors American Veterinary Review:

Few years have provided more food for thought in veterinary circles than the one just past. The province of veterinary science has been distinctly enlarged, and it has triumphantly demonstrated its claim to pre-eminence among kindred sciences. The enlarged field applicable to veterinarians becomes more and more apparent. In every walk of life we find him contributing his quota as a means of producing a permanent record, redounding with glory to the good of his chosen profession. It is true that the veterinarian is yet in his infancy as a public benefactor. Errors are apparent—in legislation or the want of it, fees, ethics, etc. But such rapid strides are being made that it seems highly probable that satisfactory methods approximating those of perfect will soon be forthcoming. To this end many efforts are directed, and great promises already discovered. Yet, despite its shortcomings, the profession has made for itself a place, and has a strong claim on the attention and consideration of the public, and all of this by virtue of its value as a public benefactor.

In the line of material, the trend during the past year has been toward reducing the bulk and increasing the standard. Thle bicycle and electricity have no doubt been largely responsibe for this; but the popularizing of the profession goes merrily on. The chief event of the year, however, has undoubtedly been the extending of the college course by one or two "delinquents," so that now all American colleges require at least the same time to obtain, if they do each confer a different degree.

The general public has manifested great interest in the achievements of veterinary science, and the interest has been fostered by the magazines and daily papers—quick to reflect and even to mould the direction of public thought. This popular enthusiasm has opened up places hitherto closed to veterinarians. Scientific men generally are beginning to apply practical results achieved through veterinary science. The medical profession recognizes it as a valuable adjunct to their own—in fact, inseparable and one. Following up this line of advancement, I predict wonderful results for this year. For instance, the perfection and application of the so-called X-rays as a diagnostic agent; more light on the theory of reproduction as it relates to heredity; the relation of contagion between man and the lower animals; the more liberal use of the veterinarian as a sanitarian; the search for the physician's north pole—life.

Take the microscope and look
  Down on any living tissue,
Lo! before you like a book
  Lies the cell; and from it issue
Others; and in all we trace
  Viscous globules—each one has 'em;
You're of life the very base—
          Protoplasm.

If I take a single drop,
  You're in such a strange condition
That your movements never stop,
  As if guided by volition.
Ardently we watch you whirl;
  Science breeds enthusiasm;
You're as giddy as a girl—
          Protoplasm.

Every blade of grass, each flower,
  All that owns a life organic,
Every man that lives this hour,
  Boasting of his thews Titanic;
Looking backward we can see,
  Over life as o'er a chasm,
How all spring at first from thee—
          Protoplasm.

Thus, it seems, to thee we owe
  All we are and all we may be;
Man, the microscope says so,
  Was a protoplastic baby.
Here's your health, then, since you bring
  Life, that physiologic spasm;
But for thee I could not sing—
          Protoplasm.

Fraternally yours,
CHAS. W. HEITZMAN, M.D.C.

SOCIETY MEETINGS.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The Veterinary Medical Association of New York County was called to order at its rooms in the Academy of Medicine, at 8.45 P. M., Feb. 3d, with the President, Dr. Huidekoper, in the chair. The following members responded to roll-call: Drs. Bretherton, Bell, C. C. Cattanach, J. S. Cattanach, Delaney, Ellis, Farley, Gill, Huidekoper, Hanson, Jackson, Loomes, Lamkin, Machan, MacKellar, Miller, Neher, and O'Shea.

Report of Board of Censors.—Dr. Gill (Chairman) reported that the committee recommended to the association, that the action previously taken in the Glover case stand. The committee reported favorably on the name of Dr. M. J. Murphy, Jr., who had applied for membership in the association in regular form. The committee also reported favorably on the recommendation for honorary membership, the name of Prof. A. Liautard by members O'Shea, Robertson and Hanson. It was then regularly moved and seconded that the report be acted upon in sections. Carried. Section I. Report on the "Glover case." Moved and seconded that the report be accepted. Carried. Section II. Application of Dr. Murphy for membership. Moved and seconded that the report be accepted. Carried. Section III. Recommendation of Prof. Liautard for honorary membership. The Chair, after appointing a chairman *pro tem*, offered the following protest: "Mr. Chairman: It is with extreme regret, that I cannot express my personal feeling of friendship for Dr. Liautard by seconding his proposal for honorary membership, but am forced to protest against it. This I must do as a matter of principle upon the same grounds upon which I once prevented the election of Prof. James Law, of Cornell, as an honorary member of the U.S.V.M.A. As a leader of the profession, and on account of Prof. Liautard's long eminent standing in it, he should have been a leader in our association. On the contrary, when we were struggling for existence, he saw fit to resign, and the wording of his resignation was a grave reflection upon the association. Now we have struggled and made a success of the association, and I must protest that he should not ask the honorary results, and I move that the proposition for honorary membership be not accepted." Seconded by Dr. Gill, who stated that he did not believe Dr. Liautard, if he knew of it, would have permitted the application to have been made. Carried.

Reports of Cases.—Dr. Neher reported a case of swelling of the face with inflammation of the buccal cavity, followed by sloughing to the extent of exposing a portion of the supermaxillary bone and a portion of the palatine artery, and asked what might be the cause; he attributed it to purpura. An extremely interesting discussion followed as to the ætiology, etc., which was participated in by Drs. C. C. Cattanach, Miller, Farley, J. S. Cattanach, Hanson and others. Prof. Bell expressed his belief that it was of traumatic origin, citing a case where similar results were brought about by a piece of hard wood becoming lodged crosswise between the third molars on either side. President Huidekoper believed it to be purpura, and gave a very interesting little talk in relation to it and upon the minute anatomy of the parts.

Judiciary Committee.—Dr. O'Shea (Chairman) called the attention of the meeting to Assembly Bill No. 231, introduced by Mr. Hughes, in relation to the appointment of a State veterinarian, as a member of the State Board of Health. Moved by Dr. Hanson, that it be the sense of the meeting to do all they can to oppose the bill. Seconded. Carried. Assembly bills Nos. 25 and 137 were also mentioned, which, of course, had already been opposed by most of the members present. The committee again promised to take action in reference to the Jury Bill. Moved and seconded that the report be accepted. Carried. Moved and seconded that proper means be taken to have Mr. Mulvey's name removed from the register. Carried. Moved and seconded that the Judiciary Committee take action at once in regard to the same. Carried.

Publication Committee.—President Huidekoper reported for this committee that they have almost verified the entire list for Greater New York, and expect to have the work in publication by the end of February. Moved and seconded that the report be accepted. Carried.

The resignation of Thos. Giffen was next taken up. It was regularly moved and seconded that the resignation be accepted. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Secretary.*

THE KEYSTONE VETERINARY MEDICAL ASSOCIATION was convened on the evening of Jan. 11th by President John R. Hart, with 43 people present, among whom were Drs. Thomas and James B. Rayner, Otto G. Noack, W. H. Hoskins, H. A. Christmann, C. J. Marshall, J. R. Hart, H. D. Martien, and, as speaker of the evening, George Abbott, with the following men as representatives of the Milk Association, etc. : Joseph H. Miller, secretary of the Milkmen's Exchange ; Geo. T. Gravenstine, Geo. Abbott, Jr., John W. Scott, and a number of others.

After roll-call and reading of the minutes of the December meeting, the regular order of business was suspended, and George Abbott was introduced as speaker of the evening. He announced as his subject " The Milk Question," and first spoke of the milk supply of Philadelphia, maintaining that it was comparatively above reproach, as the reports show only about 3 to 5 per cent. of adulterated milk, which he thought was very small when we consider the vast amount consumed here (annually about 97,000,000 quarts), and the many sources from which it comes. Jersey furnishes 20%, New York 8% and a small amount comes from Delaware; the remainder is furnished by Pennsylvania herds, many of which must necessarily be in not the best sanitary surroundings, yet *not one* case of sickness in Philadelphia has ever been traceable to the milk supply, and this record is not likely to be broken, as the more prominent dealers are having the herds from which they procure their supply regularly examined by competent veterinarians, and think it would be in the line of progression if the State Veterinarian would issue certificates of health (after tuberculin test) for cattle when applied for by owner, as these held by a few would be an incentive to all other producers who wished to be in the front ranks. He exhibited a blank, such as used in the examination of his herds every three months. He then spoke of the Board of Health trying to enforce the antiquated act of 1885, commonly known as the Pittsburg Act, relating to the production and sale of milk. This act makes no allowance for unavoidable ignorance of facts, and holds a man liable for that which he could not possibly know, being with other pure food enactments the only instance of the kind in our courts and not one of the European nations will impose on any class of offenders in this way. While this act requires 12½ per cent. of total solids (only Channel Islands cattle will not fall below this limit), again it prohibits milk having a specific gravity over 1.033 (the milk of Channel Islands cattle has a specific gravity above this limit), consequently all dealers would soon be in jail except those left out through the courtesy of the milk inspectors. Regarding skim-milk, the act requires 2½ per cent. of fat, while only 3 per cent. of fat is required therein for whole milk. This practically does away with the sale of skim-milk. Dietists are a unit as regards the comparative cost and nutrition of skim-milk; they consider it the most wholesome, healthy and the cheapest animal food to be had when its nutritive value is realized and considered. In comparison with beef and mutton, the ratio of its value is as 3 to 1 in favor of skim-milk. Of the 13 per cent. of total solids in average whole milk 4 per cent. is fat, the remainder ash, sugar, and nitrogenous products, or roast beef. The fat gives force and energy, heat, etc., but does not build up the bodily structure. Life has been sustained for eleven years on skim-milk alone; this can be accounted for by the fact that at least two-thirds of the value of whole milk still remains. The inspectors claim the use of the lactometer will shield the milkman, yet they themselves do not rely on this alone, but prosecute solely upon analytical tests, they knowing full well that part of the cream may be removed and replaced with water without affecting the lactometer's marking. He spoke of cases where they recently condemned (by the lactometer) milk which upon analysis showed 5 per cent. of fat, and at the same time passed milk which upon analysis proved to contain but little upwards of 3 per cent. of fat. He thought the pure food law should have a reservation by which the dealer would be excused if he had done all in his power to detect fraud of which he did not or could not by reasonable diligence ascertain.

He now closed his remarks by stating that he would be glad to answer any questions.

Dr. Hoskins said he thought the milk question one of vast importance, as 95 per cent. of that produced was used as a raw product, and he believed its consumption had not increased *pro rata* with the population in the last five years.

The reply was that in 1891 and 1892, following the first attack by the Board of Health, there was a marked diminution in milk receipts, but in 1893 and 1894 it increased about 3,000,000 quarts per year. He attributed the lack of increase since that time principally to the hard times.

It was now moved and seconded that a vote of thanks be extended Mr. Abbott for his very interesting talk. This was unanimously passed.

The association resumed its regular routine of business.

Dr. Hoskins read a decision of the New York State bar in regard to dehorning, in which they held it to be a surgical operation, and the non-graduate performing it liable to a fine of $50 per day while operating.

This agitated the question of dehorning, which, like all progressive movements, had much to be said for and against it.

Dr. Rhoads then asked what the comparative results were in ovariotomy of cattle.

After some little discussion on this, Dr. Jas. B. Rayner spoke of the removal of the uterus. This called forth remarks from Drs. Hoskins, Christmann, Thos. B. Rayner, and others.

The question of a lunch to be given at the February meeting was now brought up, and after some *pro* and *con* opinions, it was decided to give a light lunch to the association members and its invited guests, at that time. Drs. F. S. Allen, J. T. McAnulty, and W. H. Hoskins were appointed as a committee to take charge of the affair.

Meeting adjourned to meet Tuesday evening, Feb. 9, 1897.

W. L. Rhoads, *Secretary.*

WISCONSIN SOCIETY OF VETERINARY GRADUATES.

The annual meeting of this society was held in the City Hall at Madison, Feb. 5th.

The meeting was called to order by the President, Dr. Leech, at 2 P. M. On roll-call the following members responded: Drs. Arpke, B. L. Clark, W. G. Clark, Hartwig, Kuoni, Leech, Laws, Ormond, E. D. Roberts, Roub, and L. A. Wright. Dr. A. H. Wright, of Lake Mills, was also present.

The minutes of the last meeting were read and approved. The Secretary's report was read and accepted. The Treasurer's report was read and accepted.

Dr. Leech then gave his annual address, which was very interesting and instructive, and contained a great deal of good advice to the practitioner. On motion a vote of thanks was tendered to Dr. Leech for his able address.

The following addition to the Code of Ethics was discussed, and, on motion, adopted: "It shall be deemed a violation of the code of ethics for any member of this society to contract with or through the officers of any live-stock insurance company for the professional treatment of the members' stock so insured, but this rule shall not prevent any member from becoming the examiner of risks and to act in the capacity of an expert for the same."

The application of Dr. S. S. Snyder, of Cedarburg, was then presented for membership. It was referred to the Board of Censors while the society took a short recess. The censors reporting favorably, it was moved and seconded that Dr. Snyder be elected to membership. Carried.

Dr. Leech, as chairman of the Committee on Legislation, reported that a bill to regulate the practice of veterinary medicine and surgery had been drafted and was ready for presentation to the legislature, and gave the important parts of the same. The bill was discussed by Drs. Roberts, Hartwig, Ormond, Clark and Wright. On motion, the report of the committee was accepted. It was moved and seconded that the Secretary send each member a copy of the bill when printed. Carried.

The Secretary read a letter from Dr. Salmon requesting a contribution to the Pasteur Memorial Fund. On motion, the Secretary was instructed to send five dollars.

The Secretary reported correspondence in regard to the Army Veterinary Bill. On motion, further correspondence in regard to army veterinary legislation was left to the Secretary.

Dr. Oberst being absent, on account of sickness, the Secretary read his paper on "Tuberculosis."

On motion the society adjourned to meet at 7 P. M.

The evening session was called to order by the President at 7:20 P. M.

On motion the regular order of business was dispensed with, and the society proceeded to the election of officers, and the following gentlemen were elected for the ensuing year: President, Dr. L. A. Wright, Columbus; Vice-President, Dr. J. F. Roub, Monroe; Secretary, Dr. W. G. Clark, Beaver Dam; Treasurer, Dr. J. P. Laws, Madison. Censors.—Drs. A. H. Hartwig, Watertown; B. L. Clark, Monticello, and E. H. Newton, Waupun.

The reading of papers was then taken up, and Dr. B. L. Clark read an interesting and carefully-prepared paper on "Laminitis," which was discussed by Drs. Ormond, Hartwig, Wright, Roberts and Roub.

Dr. Arpke read a paper on "Reflex Irritation," citing a number of cases. It was very interesting, and brought out plainly the necessity of a careful examination in order to arrive at a correct conclusion as to the cause of disease in many cases. Discussed by Drs. Roberts, Wright and Hartwig.

Dr. J. F. Roub reported a case of "Lipoma," causing death. The case was diagnosed at first as enteritis. Post-mortem revealed a lipomatous tumor on the posterior aorta. Discussed by Drs. Ormond, Wright and Laws.

Dr. J. P. Laws reported several interesting cases that had occurred in his practice. Discussed by Drs. Hartwig and Roberts.

On motion, it was decided to hold the semi-annual meeting in Milwaukee, subject to the call of the Secretary.

On motion a vote of thanks was tendered the essayists. Adjournment. W. G. CLARK, M.D.C., *Secretary.*

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of this association was held at 19 Boylston Place, Boston, on Wednesday evening, Dec. 23d, 1896, at 8:15, with the President, Dr. John M. Parker, in the chair.

Members present were Drs. Cronon, Frothingham, Hamilton, Howard, Lee, Lewis, McLaughlin, Peters, Pierce, Rogers, Stickney, Williams, Winchester, and Winslow.

The minutes of the previous meeting were adopted.

Dr. Peters reported for the committee that was appointed at the November meeting that they had sent memorials to the United States senators and each congressman of Massachusetts, urging the passage of Veterinary Surgeons United States Army

Bill to fix the pay, allowances, tenure of office, and rank of the veterinary surgeons of the United States Army. Dr. Winchester moved that the report of the committe be accepted. Carried.

Dr. W. D. Plaskett, of Clinton, and Dr. R. E. Dyer, of South Boston, were elected members.

Reports of Cases.—Dr. McLaughlin reported the case of a horse used in a tallow wagon that had a large swelling on the neck about the middle; blistered; drove on one rein; dropped dead on the road. He also reported some mild cases of pneumonia; also a case of fractured os corona.

Dr. Winchester reported an interesting case of ascites.

Dr. Cronon reported a horse with paralysis of the left side of the face, due to a blow, which has responded to treatment. Also a case of scirrhus cord.

Dr. Winslow reported the case of a horse cutting his lip on a fence brushing flies.

Dr. Parker reported the case of the gradual recovery of a partial fracture of the cervical vertebræ, although there is still an enlargement. Also reported an experience he had with a herd of 50 cows, and pointed out the necessity of thorough disinfection and of removing all diseased animals from a herd.

Dr. Howard reported a case of lameness of a bay mare; lame behind; diagnosed thrombus; treatment, potassium iodide; complete recovery.

Dr. Stickney reported the case of a horse that ran into a barbed-wire fence producing a wry neck; for two years could not raise its head, but finally recovered.

Meeting adjourned at 10:15 P. M.

HENRY S. LEWIS, *Secretary.*

CHICAGO VETERINARY SOCIETY.

The February meeting of this society took place on the evening of February 11, with President Walker in the chair. Owing to the tardiness of many of the members, it was 8.45 before the meeting was called to order.

On motion roll-call was dispensed with; a count showing only fifteen members present.

The Secretary read the minutes of the two previous meetings, which were approved.

It was moved by Dr. Campbell, seconded by Dr. Worms, to dispense with the regular business, and go on to the admission of new members. After the reading of the applications by the Secretary and the approval of the same by the Board of Censors, the following gentlemen were elected to membership by acclamation: Dr. Frank McCoy, Dr. Harry J. Stewart and Dr. J. A. Bovett, Jr.

A copy of a letter which some time ago was sent to the Boss Horse-Shoers' Association was then read to the society. The letter was originally sent by a committee of three members. The Boss Horse-Shoers never having acknowledged the letter, it was moved and seconded to have the Secretary send them a copy of the letter with another letter asking them to acknowledge the same, and give the society their views in the matter. The letter referred to the practice of veterinary medicine and surgery by the horse-shoers and asking them not to do so.

The next order of business being new business, a lobbyist was introduced to the society, who spoke about the Illinois State Veterinary Bill now pending at Springfield before the legislature. It was moved by Dr. Hughes, seconded by Dr. Worms, that three members be appointed to go to Springfield on the 16th to interview the representatives and to try to further the interests of the State bill. The President asked Dr. Hughes to appoint the committee. Dr. Hughes appointed Dr. James Henderson, Dr. E. L. Quitman and Dr. Campbell. He stated that either he or Dr. Baker would also go down to represent the Chicago Veterinary College. Dr. Walker stated that he would also try to go.

Dr. A. H. Baker was the essayist of the evening, but owing to sickness he was unable to read his paper on "Open Joint." The paper was deferred until the next meeting.

There being no further business, Dr. Hughes presented to the society the *four* feet of a subject which had come under his notice. The peculiarity of the feet was that they were *all* affected with navicular disease. Dr. Hughes exhibited the feet (showing the navicular bone) because it was so unusual to find an animal affected with this disease both in front and behind. Quite a discussion was held on the subject, and quite an instructive talk was given by Dr. Hughes. A vote of thanks was given to him for the exhibition of such an unusual case and for his interesting discourse on the same.

On motion, adjourned. LAWRENCE CAMPBELL, *Sec'y.*

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The annual meeting of this association will be held in Odd Fellows Hall, Broad and Cherry Streets, Philadelphia, Pa., on Tuesday and Wednesday, March 2d and 3d, at 10 A. M., and a full attendance is earnestly desired. The papers to be read are as follows: "Eversion of Vagina and Uterus," Dr. Hoffman; "Abortion," Dr. Conard; "Azoturia," Dr. Hart; "Tetanus," Dr. Pearson; "Cannabis Indica," Dr. Williams; "Why," Dr. Rhoads; "Tuberculosis in the Dog," Dr. Harger; "The American Veterinary Trade," Dr. J. A. Waugh; "Report of Case," Dr. Lusson, and probably a paper by Prof. Jno. W. Adams.

MISSOURI VALLEY VETERINARY ASSOCIATION.

This association held a very interesting meeting on the evening of Feb. 10, in the Masonic Building, Kansas City, Mo., and there were more than two score members present. The papers were discussed with more than usual interest and freedom, that of Dr. R. H. Harrison, on "Canine Practice, with Notes on Cases," being especially excellent. Dr. E. P. Schaffter's subject was "Colic," and Dr. L. Enos Day's "Modes of Administration of Medicines to Horses."

NIAGARA AND ORLEANS COUNTIES VETERINARY MEDICAL ASSOCIATION.

A meeting of this association was held at Niagara Falls on Jan. 9th, with the following members present: Drs. Martin and Crowforth, of Lockport; Williams, of Middleport; Moore, of Wilson, and myself. The principal business before the meeting related to the perfecting of our organization, and it was quite thoroughly discussed. We adjourned to meet in Medina in April.

J. P. THOMPSON, *Secretary.*

NEWS AND ITEMS.

JOHN J. MOYNAHAN, D.V.S., has been appointed veterinarian to the fire and city works departments of Holyoke, Mass.

SIR JOSEPH LISTER, the father of antisepsy, who was recently elevated to the English peerage, has chosen the title of Lord Lister.

WILLIAM TAG, Ph. G., V.M.D., graduate of the Veterinary Department of the University of Pennsylvania, class of '91, died in Philadelphia, Jan. 12th.

EUCAIN AS A LOCAL ANÆSTHETIC.—Dr. L. E. Willyoung, of Buffalo, reports satisfactory results from the use of this new alkaloid as a substitute for cocaine.

Dr. Ross Cooper, of Blairsburg, Iowa, has recently been added to the force of veterinary inspectors of the Bureau of Animal Industry at Kansas City, Mo.

The Spirit of the Times is out in a new dress, and we congratulate the publishers on the handsome appearance of "the American Gentleman's Newspaper."

The Judiciary Committee of the Veterinary Medical Association of New York County are empowered to continue prosecutions both by criminal and civil suits.

Col. Ed. Butler is authority for the statement that there are from 20 to 30 per cent. more horses in St. Louis now than there were in the palmiest days of the horse car.

Prof. W. L. Zuill, of Philadelphia, has begun the practice of human medicine, and Dr. Junius H. Wattles, of Kansas City, Mo., is preparing himself for the same profession.

Dr. W. H. Jackson, a graduate of Columbia Veterinary College, has, after fifteen years of practice in New York City, removed to his old home in Poughkeepsie, New York.

The Commencement Exercises of the American Veterinary College will be held at Chickering Hall, Fifth Avenue and Eighteenth Street, New York, Thursday evening, March 25.

Drs. H. D. Paxton, of Wilmington, Del., and S. G. Burkholder, of Denver, Pa., have received appointments to the meat inspection service under the Bureau of Animal Industry, and been assigned to Chicago.

Dr. Jno. W. Adams, one of the editors of the *Veterinary Magazine*, has been elevated to the full professorship of veterinary surgery and obstetrics by the Board of Trustees of the University of Pennsylvania.

Do Not Forget that this is the last number of Volume XX., and that subscriptions to the new volume are now due, and must be forwarded if you wish the monthly visits of the Review for the next year.

Dr. Kerchner, of Eastern Pennsylvania, and Dr. Adams, of Northern Ohio, have recently been appointed inspectors of the Bureau of Animal Industry, and assigned to duty in the Texas fever quarantine divisions, with headquarters at Kansas City.

A Veterinarian Studying Law.—A well-known Brooklyn veterinarian, having become enamored of the profession of law, advertises on page 888 of this month's Review his practice for sale, with or without the hospital, house, etc. The Doctor is now dividing his time between practice and the study of legal lore.

ORMONDE, the unbeaten English race-horse, who was purchased by Mr. W. O'B. Macdonough, of California, for the enormous sum of $150,000, and placed at the head of his Menlo Park stud, was thought to be almost impotent for several years, but we are glad to hear that many mares are fertile to his cover this season.

DURING last year $2,851,285 was distributed in stakes and purses for thoroughbreds on tracks in the United States. Canada paid out $137,537, making a total of nearly $3,000,000 won by "bang-tails" on this side the water. Only a little over one-fourth as many races were run in England last year as in the United States.

VALUE OF IMPORTED ANIMALS.—The annual average number of animals, with value, imported into the United States in the years 1892, 1893, 1894, 1895, and 1896, ending June 30, as shown by the Department of Agriculture, are: Cattle, 74,932, worth $477,512; horses, 11,756, worth $1,576,298; sheep, 330,404, worth $1,089,567.

TEXAS FEVER QUARANTINE.—The Government Texas fever quarantine took effect Feb. 15. After that all cattle shipped from below the quarantine line are yarded in the quarantine division at stock yards and sold only for slaughter. The Kansas State quarantine took effect Feb. 1, and no cattle from below the line can be unloaded in Kansas after that date.

PERSONAL.—Hamilton Anderson, 1574 Monroe Street, Chicago, Ill., wishes to learn the present address of John C. Hengston, veterinary surgeon, or his wife, who were residents of Chicago in 1892; prior to and subsequent to that date he was connected with racing stables in the East. Any reader having knowledge of the subject will please address as above.

THE MAINE CATTLE COMMISSIONERS have made their report for 1896, showing that over 300 inspections were made in different parts of the State, which has 328,543 cattle and 110,719 horses, sheltered upon 65,400 farms. They reiterate their former claim that Maine is freer of tuberculosis than any other New England State, but advise the most watchful care of the herds, else there is danger of its increasing.

CRUELTY TO HIS HORSE.—A thoughtless fellow tied his horse in front of a Long Island City saloon during the snow storm on the first of February and left him standing in snow up to his knees for eight hours while he played pool within. He was arrested by an officer of the American Society for the Prevention of Cruelty to Animals, and the judge before whom he was tried sentenced him to jail for ten days.

PROF. KOCH IN DEMAND.—A despatch to the New York *Herald* from Berlin, Feb. 1, says that Dr. Koch has been recalled from South Africa, whither he had gone to study the bacteriological aspect of the rinderpest, which has been devastating the cattle of that country, and ordered to head a commission to proceed to Bombay to investigate the Bubonic plague, with a view to adopting measures against its introduction into Europe.

THE meeting of the Alumni Association of the American Veterinary College will be held in the lecture-room of the college building, Thursday, March 25th, at 2.30 P. M., sharp, and the annual banquet of the association will be held at the Marlborough, Broadway and 36th Street, after the exercises. Tickets, $4.00, and can be had by sending to Dr. F. R. Hanson, 160 Eldridge Street, New York City, or to Dr. Clayton, at the college.

W. H. DALRYMPLE, M.R.C.V.S., of Baton Rouge, La., was elected Secretary of the Louisiana State Agricultural Society, at its meeting in the latter part of January. He was also elected Secretary and Treasurer of the Stock-Breeders' Association, formed during the meeting of the Agricultural Society, the object of which is to "increase the excellency and to provide for the preservation and dissemination in their purity of the different breeds of improved stock of all kinds." We are much pleased to see that this scholarly veterinarian is appreciated by the agriculturists of his State.

HORSE MEAT FOR HOLLAND.—Last week a car-load of horse meat was shipped from this city consigned to meat dealers in Rotterdam, Holland. Richard Martin and Charles Beagles maintain a slaughter-house for horses at Lyons, just outside the Chicago city limits, and Mr. Martin is thus quoted concerning the trade: "We ship a car of horse meat to Rotterdam every three weeks. We usually ship it corned, in which condition it is almost impossible to tell it from beef. We slaughter from fifty to one hundred horses a week and pay $2.75 for all horses offered for sale, taking them just as they come."—(*Breeders' Gazette, Feb. 10.*)

DR. GEORGE H. BAILEY ON TUBERCULOSIS.—We learn through the Portland (Me.) *Daily Press* that at the sixteenth meeting of the Maine Academy of Medicine and Science, held in that city on Feb. 8, a large number were present, including a delegation from the State legislature, who had come to listen to a paper on "Tuberculosis," by Dr. George H. Bailey, of the State Board of Cattle Commissioners, and to consider the importance of taking vigorous legislative action to prevent the spread of the disease throughout the commonwealth. The paper was enthusiastically received, much valuable discussion followed, and a deep impression was made upon the legislators and others. The REVIEW hopes to be able to print the paper in the April issue.

THE CELEBRATED KNEEBS CASE has been finally settled. The American trainer was arrested in Germany and sentenced to a term in prison and to pay a heavy fine for ringing a mare named Bethel under the name of Nellie Kneebs. He appealed, claiming that the Bethel mare was in America, and a celebrated veterinarian was sent to this country to determine the identity of the American horse. His report was adverse to Kneebs, and the court ordered that he fulfill the sentence. The veterinarian contended that the age of the American mare claimed to be Bethel did not agree with the age that Bethel should be, and took with him to Europe a plaster cast of the teeth, which expert veterinarians called in rebuttal swore was not a reliable test.

THE PROPOSED ILLINOIS STATE VETERINARY COLLEGE.—In our February issue we printed resolutions of the Illinois State Horticultural Society advocating the establishment of a State Veterinary College in connection with the University of Illinois. As showing the interest taken in the subject we print from the *Breeders' Gazette* a like resolution by the State Board of Live Stock Commissioners: "WHEREAS, We, the undersigned, members of the State Board of Live Stock Commissioners, recognize the value of veterinary knowledge and desire that every possible facility should be provided in this State for its thorough teaching in the most practical and scientific manner possible; therefore, *Resolved*, That we heartily indorse the proposition to the effect that a thoroughly-equipped veterinary school be established in connection with the University of Illinois, and that the Legislature will further the best interests of the agricultural and live-stock industries of the State by making the necessary appropriation and enacting such measures as shall lead to the establishment of the desired institution."

COMMITTEES OF THE NEW YORK STATE VETERINARY MEDICAL SOCIETY.—The President, Dr. Nelson P. Hinkley, has appointed the following committees for the ensuing year: Executive Committee—Nelson P. Hinkley (chairman), 395 Ellicott Street, Buffalo, N. Y.; R. S. Huidekoper, 154 East 57th Street, New York; C. D. Morris, Pawling. Legislative Committee—Wm. H. Kelly (chairman), 195 Western Avenue, Albany; James Law, Ithaca; C. D. Morris, Arthur O'Shea, 117 West 46th Street, New York; Nelson P. Hinkley. By-Laws Committee—C. D. Morris (chairman), R. S. Huidekoper, John Wende, 1595 Main Street, Buffalo. Committee of Arrangements—C. D. Morris (chairman), M. J. Henderson, Syracuse; Arthur Baker, Oneonto; W. L. Baker, Cortland; E. D. Hayden, Syracuse. The Board of Censors are the same as last year, who were elected in 1895 to serve for two years, and is as follows: W. L. Baker (chairman), John Wende, Arthur O'Shea, James Law, R. S. Huidekoper.

JURY DUTY IN NEW YORK AND KINGS COUNTIES.—As our readers probably know, the Judiciary Committee of the Veterinary Medical Association of New York County succeeded in having a law enacted a few years ago exempting all (?) veterinarians in New York State from jury duty; but when the statute appeared it was found that New York and Kings counties had been excepted. The father of the bill, Dr. Arthur O'Shea, has worked very hard ever since to right the injustice to the metropolitan members of the profession. It is very difficult to engineer exemption bills through a legislative body, but if perseverance counts for anything, the Doctor will yet make his fellow practitioners happy. On February 9th we note that Senator Ellsworth introduced a bill "extending to surgeon dentists the exemption from service as trial jurors, that is accorded to them in New York and Kings counties, and also extending such exemption to physicians, pharmacists, and veterinaries throughout the State."

CASTRATED THE WRONG COLT—FINED $50.—The following peculiar circumstance is copied from the Boston *Traveller*, of Feb. 11th, and it appears from the evidence that the mistake of Dr. Lee was most natural and the sentence of the court most unjust. Any veterinarian is liable, though not likely, to have the same accident happen to him, and one would think that the real culprit was the man who failed to give sufficiently explicit instructions to his veterinarian as to the location of his stable and the description of colt. "The second session of the Municipal Civil Court was yesterday the scene of much merriment. For some time the lawyers had known of the case of Hudgens *vs.* Lee, and enough had crept out about the matter to raise a suspicion, at least, that it would be highly interesting. In this they were not mistaken, for the hearing was a real 'Comedy of Errors,' and the stories of the witnesses elicited ever and anon considerable laughter, in which the grave and potent judge himself was forced to join. The court room was crowded by members of the bar, and so entertaining were the proceedings that one legal gentleman preferred to lose his place in the order of hearing in another court rather than miss the fun, and sent word back when sent for, to say that he was engaged in another session. A good deal of amusement arose as to the definition of the word 'burro,' and this seemed to puzzle every one concerned in the case. But to proceed. Daniel D. Lee is a veterinary surgeon of considerable experience, whose clientage is among the upper tendom, and he was sued for damages for the sufferings of a young burro, both mental and physical. The plaintiff is a man well known about town and on the beaches, where he is often seen in the summer time, dressed in grotesque costume and catering for the young people who hie them to his donkeys for a ride. Seymour I. Hudgens is the name of this public benefactor, and he keeps some 20 of the patient animals of Bible fame for this especial purpose and for advertising. Last October he was possessed of a pretty little strawberry roan colt of the donkey species, and this, with its dam, he loaned to Mr. George F. Clark, of the Park Commission, to keep about his lawn for the pleasure of his young children until cold weather set in. Mr. Clark lives at Longwood, and there the colt and dam were kept. But, unfortunately for Dr. Lee, there is another gentleman named Clark who lives near to the other gentleman, only that Mr. George F. Clark lives on Parkway, and the other Clark on Park Street. The latter gentleman had a young stallion which he desired to have gelded, but in the general mix up the wrong animal was operated on. The poor burro suffered, while it was not intended by his owner that he should be gelded, while his neighbor, the horse, escaped, at least for a time. Dr. Lee, in evidence, said he had been in practice 10 years, graduating from the Harvard Veterinary School, and for seven years was lecturer on anatomy at the college. Mr. Clark of Parkway called upon him in October, and engaged him to operate on his young horse, and it was arranged that he should go to the house at 3 o'clock one afternoon, when the owner would be absent, as he did not wish to see the operation performed. Mr. Clark said he lived on Park Street at the back of the engine house, and if he went there the firemen would direct him, as Mr. Clark was well known to them. On going to the engine house he was sent to the other Clark house on Parkway, and there he was met at the door by a servant girl, who directed him to the stable in rear. There he found Mr. Clark's man, who was so deaf that he could not make him hear, and he had to write his questions. The deaf man said it must be the donkey that he was looking for, and added that he had heard there was some intention of altering the young colt. Innocently enough, the doctor went to work and completed the job in good fashion. Next day he heard from the original Clark, who wanted to know why he did not keep his appointment. This astonished him, and he at once made inquiry, which led him to believe that another veterinary surgeon had been engaged to attend the smaller animal. However, he attended to the horse and lay quiet until a demand for damages was made by Hudgens, who owns the jackass. The doctor said he knew nothing about donkeys, that was, as to value, and he could not define the difference between a burro and a donkey. The plaintiff told how he intended the handsome strawberry roan for breeding purposes, but admitted that his color was only a sport of nature. It was for this that he valued him the more. He said his donkeys came from Mexico, and he could not get them here." A great amount of expert testimony was offered as to the value of such animals. Counsel for plaintiff urged that, being a breeder, his client, by the operation, had lost one of the tools of his trade, and ought to be recompensed. His honor, after a long hearing, awarded plaintiff $50.

PRACTICE FOR SALE.

A good paying practice, located in Brooklyn, on leading avenue (with or without two-story house and hospital), all modern improvements and facilities. Good stand for young practitioner looking for a good opening. For particulars, apply to F. A. Anderson, Attorney, Eagle Building, Brooklyn, N. Y.

BACK NUMBERS OF THE REVIEW.

I would like to purchase No. 16 of Vol. IX. (1892). I also have the following extra numbers to dispose of: Vol. XV., Nos. 7, 8, 9 (1891); Vol. XVI., No. 12 (1893); Vol. XVII., Nos. 9, 10, 11; Vol. XIX., No. 6 (1895). Geo. A. Clark, M.D.V., Stoughton, Mass.

"SANITAS"

The "Sanitas" Disinfectants can now be obtained at Factory Prices from our Agents in nearly all large cities.

The "Sanitas" preparations are true Germicides, quite free from Poisonous and Corrosive properties.

SPECIAL VETERINARY PREPARATIONS.

Rapid Deodorizers and Air Purifiers.

Send for Samples and Literature to

The American and Continental "Sanitas" Co.,
[LIMITED]
636-642 West 55th Street,
NEW YORK CITY.

Do you Keep a DOG?
Send for Pamphlet (gratis) on Diseases etc.
to SPRATTS PATENT (AM.) LTD.
241 E. 56 St., N.Y.

R. W. ELDER,

Manufacturer of....... SIDE LINES.

PRICE, $3.50.

Mailed to any Address on Receipt of Price.

121 West Penn Street, GERMANTOWN, PHILA., PA.

E. BOCKER,

MANUFACTURER OF

Veterinary and Surgical INSTRUMENTS,

582 HUDSON STREET,

Near Bank Street, NEW YORK.

The Veterinary Surgeon's Favorite Clinical Thermometer.

Patented Sept. 9, 1884.

This instrument is made expressly for Veterinary Surgeons' use. They are made of heavy glass so that breakage is lessened, also their flat back helps to prevent breakage. They are made with the whole column forming a self-registering index or with the air speck or separated index. The index is plain and may easily be seen by any practitioner. They are indorsed for their accuracy and are in practical use by many eminent surgeons.

Price, in metal or rubber pocket case, $1.50.

JOHN BARRY, Sole Maker, 62 FULTON STREET, NEW YORK.

For sale by all dealers. Forwarded on receipt of $1.50.

THE HALLANAN VULCANIZED RUBBER HORSESHOE PAD.

A Mechanical Production Combining a Rubber Pad with Canvas Firmly Secured to a Sole-leather Back.

By this means securing for the horse an even distribution of the weight over the entire solar surface of the foot

It does away with the necessity of heel and toe calkings.

It permits the use of a lighter shoe with narrower web, and thus enables the shoer to maintain closer adjustment of the shoe to the crust of the foot, while the pad, made of rubber, lessens the concussion and jar, and at the same time divides the force and weight over the entire ground surface.

A full shoe is allowed by its use, and the objection of too much direct heel pressure avoided.

It does away with the need of sharpening in winter weather and gives confidence to the horse on icy pavements. Where asphalted streets exist it is a safeguard from slipping and the severe strain from concussion.

For weak, contracted, or low-heeled feet they, while aiding the removal of these defects, enable constant use of the animal.

These pads will last from two to three months. They have met with the approval of many of the most prominent veterinarians, horsemen, and horse owners in New York, Brooklyn, Philadelphia, and wherever placed before the public.

For testimonials and any other information, write or call upon

M. HALLANAN,
Inventor, Patentee and Manufacturer,
190 West 4th St., New York City.

Tuberculine

and

Malleine

MAY BE OBTAINED FROM THE

NEW YORK BIOLOGICAL AND VACCINAL INSTITUTE

AT THE FOLLOWING RATES:

One Injection, - - -	**$0.50**
Ten Injections, - - -	**3.00**

NOTICE.—The fluids are ready for use without addition of water, and put up in sealed glass tubes containing one injection each, or in vials containing 25 cubic cm. (ten injections).

The New York Biological and Vaccinal Institute has its laboratory located at the N. Y. Pasteur Institute, and can supply, also, any quantity of

Tetanus Antitoxin

for horses, at $3.00 per bottle of 25 cc. containing several millions of Antitoxin units. Instructions and reports of cases sent on application.

SPECIAL SYRINGE

to make from one to ten injections without refilling the instrument, $3.00.

PASTEUR INSTITUTE BUILDING,
1 West 97th Street,
NEW YORK.

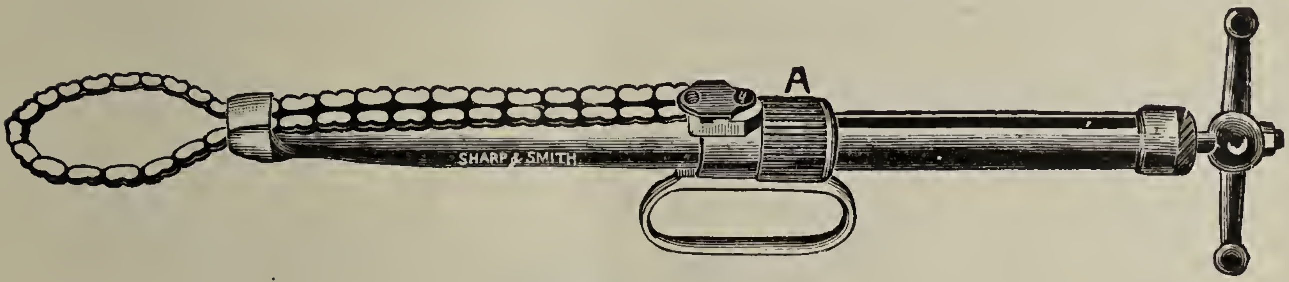
Three Highest Awards received at World's Columbian Exposition.

SHARP & SMITH,

MANUFACTURERS OF

Veterinary Instruments,

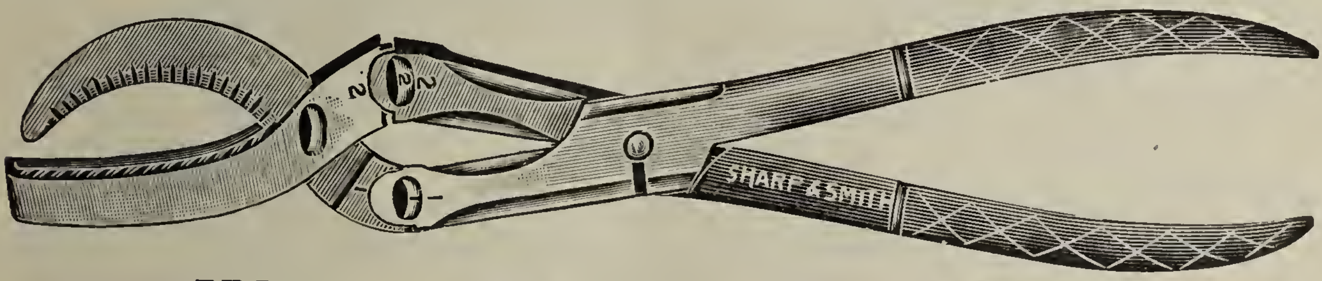
73 Randolph St., Chicago.



Patented Feb. 11, 1890.

Sharp & Smith's Improved Ecraseur.

In presenting this Ecraseur to the veterinary profession, we feel confident that at last we have an instrument that excels all others. The improvement consists of a corrugated piece "A" that when turned to the left loosens it from the screw and enables the operator to slide it up the barrel and take up the slack chain. This is done without drawing out the screw or lengthening the ecraseur; and there is no wear on the screw. Dr. T. D. Hinebauch, of Lafayette, Ind., says: "It is the most rapid instrument I have ever used. I castrated a two-year old colt in one and a quarter minutes. This is from the time he was brought out until he was returned castrated. Price $12.00.



Weder's Emasculator, $10.00.

Can be conveniently used with one hand. Greater power is obtainable through the use of this instrument than with any other pattern. Thoroughly aseptible. We also make this Emasculator with drop handles for standing operation.

Send 8 cents for Illustrated Veterinary Catalogue.

TARRO-PETROLENE,

(SYN. PETROLENE COMPOUND.)

Manufactured for Veterinarians and Pharmacists.

SOLD IN CANS of from ONE to FIVE POUNDS.

◆

It is not a secret, patented article, but an ointment, or rather a jelly, containing pure VEGETABLE TAR so perfectly dissolved and incorporated as to be unequaled.

The mode of preparation (on a large scale) is such that the busy pharmacists are not in shape to prepare anything with tar so completely blended. The granulations and stickiness have entirely disappeared, and the medicinal properties of tar and of petroleum are greatly increased.

For diseases of the skin, such as scratches, eczema, uticaria, erythema, herpes, acne, and for parasitic, microbic and inflammatory action in the tegument, it is unequaled by any formula. It is prescribed pure or in combination with other drugs, such as aristol, zinc, lead, iodol, iodoform, sulphur, etc., etc.

It is also prescribed by the leading veterinarians for affections of the feet and in various kinds of wounds.

Tarro-Petrolene is excellent in skin diseases of dogs.

Manufactured by

THE PETROLENE COMPOUND CO.,
COLUMBIA, MO.

MEYER BROS. DRUG CO., Wholesale Agents, ST. LOUIS, Mo.

☞ Samples sent free to Veterinarians on application to the PETROLENE COMPOUND CO.

PATHOLOGY & THERAPEUTICS OF DOMESTIC ANIMALS.

By DR. FRIEDBERGER,
Professor of Veterinary Medicine in the School at Munich,
And DR. FRÖHNER,
Professor of Veterinary Medicine in the School at Berlin.

Translated from the most recent edition with annotations

By PROF. W. L. ZUILL, M.D., D.V.S.,

Late Professor of Surgery and Obstetrics in the Veterinary Department of the University of Pennsylvania, Member of the Academy of Natural Sciences of Philadelphia, Member of the United States Veterinary Medical Association, Member of the Philadelphia County Medical Society.

TOGETHER WITH THE NOTES OF THE FRENCH TRANSLATORS, AND SELECTIONS FROM THOSE OF PROFESSOR TRASBOT.

In Two Volumes of about six hundred pages each. **Price, $6.00** Per Volume, net.

(Cloth Binding.)

For sale by all booksellers, or will be sent, postpaid, on receipt of price, by the Translator and Publisher,

DR. W. L. ZUILL, 857 N. Broad St., Philadelphia, Pa.

Wholesale orders filled by W. J. Dornan, Printer, 100 N. 7th St., Philadelphia.

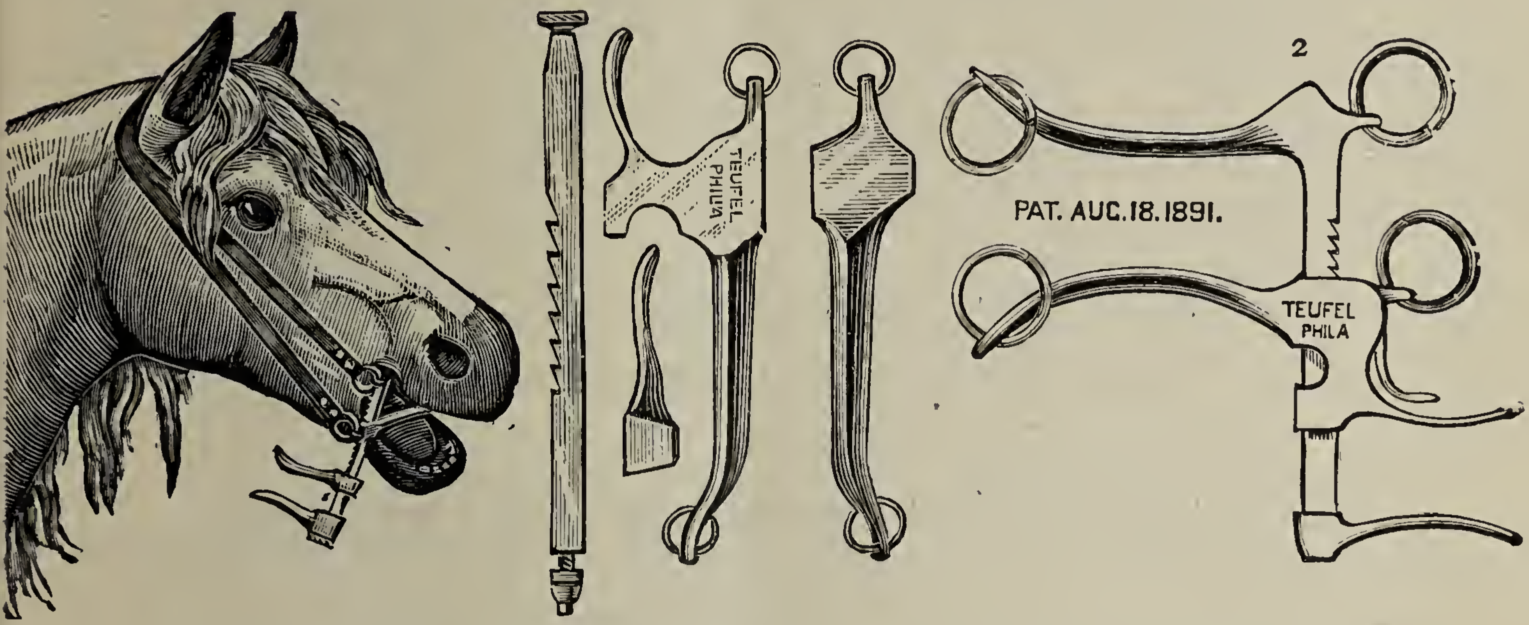
JACOB J. TEUFEL & BRO.,

MANUFACTURERS OF

Veterinary Instruments,

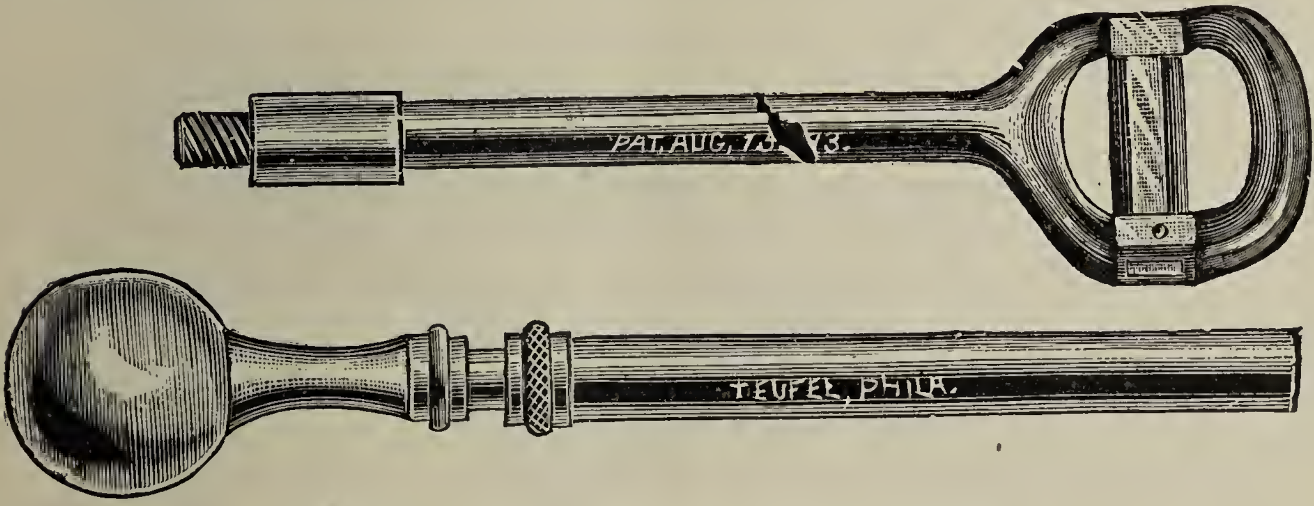
114 SOUTH TENTH STREET,

PHILADELPHIA, PA.



EDWARDS' IMPROVED MOUTH SPECULUM, WITH BRIDLE, $6.00

Middle cut shows the Speculum apart. To take apart unscrew the nut at bottom and use piece marked 1 as a wrench to unscrew No. 2.



TEUFEL, PHILA.

IMPROVED TOOTH PLANE, $10.00.

Our Illustrated Catalogue of Veterinary Instruments furnished gratis on application.

ESTABLISHED 1856.

THE FOLLOWING BOOKS HAVE BEEN

JUST PUBLISHED BY

WILLIAM R. JENKINS, NEW YORK.

MEDIAN NEUROTOMY

In the Treatment of Chronic Tendonitis and
Periostosis of the Fetlock.

By C. PELLERIN,

Late repetitor of Clinic and Surgery to the Alfort Veterinary School.

TRANSLATED WITH ADDITIONAL FACTS RELATING TO IT, BY

Prof. A. LIAUTARD, M.D., V.M.

8vo, BOARDS, ILLUSTRATED, $1.00.

Colored Plates Specially for Lectures.

SIZE, 40 X 27.

By Prof. SUSSDORF, M.D.

Translated by Prof. W. Owen Williams, of the New Veterinary College, Edinburgh.

PLATE 1.—DIAGRAM OF THE HORSE. (Left or Near Side View.)

PLATE 2.—DIAGRAM OF THE MARE. (Right Side View.)

Showing the position of the viscera in the large cavities of the body.

Price, unmounted, $1.75; Mounted on linen, with roller, $1.75 extra.

ANATOMY OF THE COW. (In preparation.)

A NEW REVISED EDITION OF . . .

A PRACTICAL GUIDE

To MEAT INSPECTION,

BY THOMAS WALLEY, M.R.C.V.S.

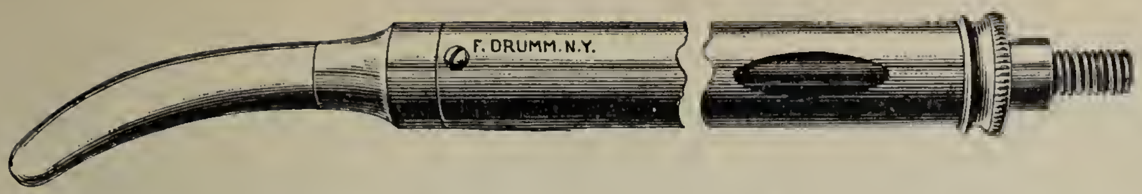
Formerly principal of the Edinburgh Royal (Dick) Veterinary College;
Professor of Veterinary Medicine and Surgery, etc.

THIRD EDITION.

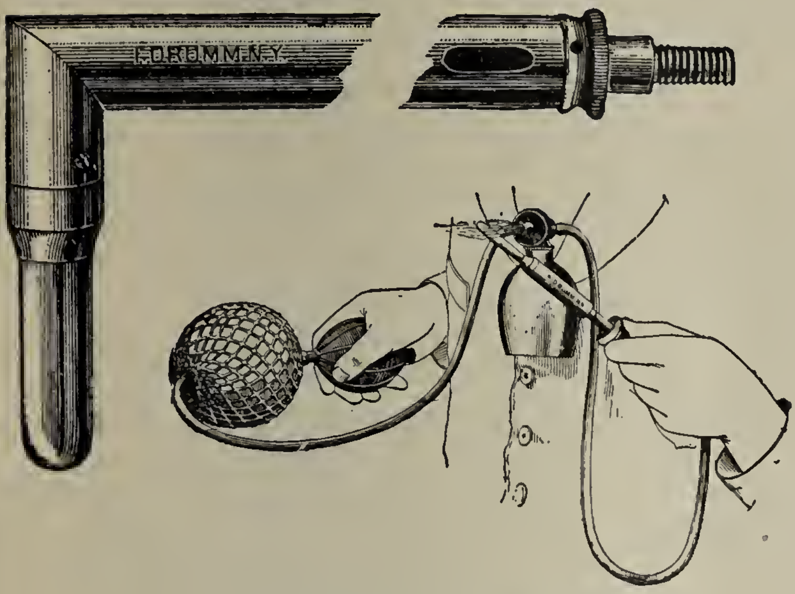
Thoroughly revised, with 45 colored illustrations. 12 mo, cloth, $3.00.

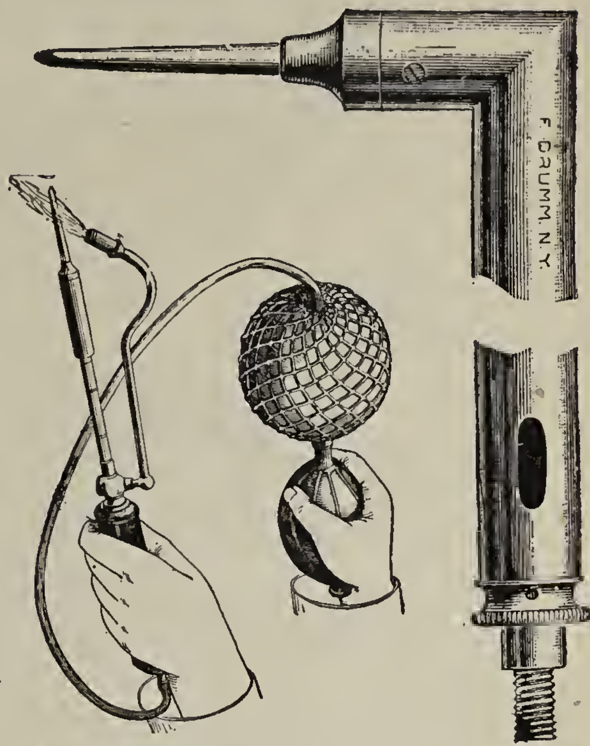
These books will be sent post-paid, for the amounts quoted, to any address. (Complete catalogue free when desired. Correspondence invited.)

WILLIAM R. JENKINS,
851 and 853 Sixth Avenue, (cor. 48th Street) New York.



A NEW COMBINED THERMO-CAUTERY.





F. Drumm's Improved.

SHEEPSHEAD BAY, N. Y., October 14th, 1896.

This is to certify that I have used the Thermo-Cautery manufactured by Mr. F. Drumm and it has given me perfect satisfaction in every particular.

WILLIAM SHEPPARD, M. R. C. V. S.

Patent Awarded JULY 16, 1896.

F. DRUMM,

MANUFACTURER OF **Paquelin's Thermo-Cautery,** 43 Park St., S. E. Cor. Pearl St., NEW YORK.

Special Platinum Tips made to order. Surgical Instruments and Experimental Work; also Tips for Physicians' and Veterinarians' use. Repairing same. Price and Directions on application.

NAVICULINE

EVERY HORSEMAN KNOWS ITS MERITS.

I will Guarantee Prof. Mannington's Celebrated Naviculine

To cure lameness, no matter how caused, quicker than any other preparation in the market. It is the most powerful paint that has ever been used for Splints, Spavins, Curbs, Bowed Tendons, Knuckling, Weak Kidneys, Shoulder Lameness, Buckshins, Quittor, Navicular Disease, Sprung Legs, Ringbone, Saddle Galls, Shoe Boils, Farcy, Windgalls, Founder, Scratches, Grease Heels, Overreach, Thoroughpin and all bony enlargements, etc. This paint has been used at Newmarket, England, G. B., with immense success; it penetrates muscle, membrane and tissue to the very bone itself.

NOTICE! Horses entered in valuable stakes may continue their regular work whilst using this valuable preparation. It will not blemish or destroy the hair on any part to which it is applied. Horses need not be kept standing in the stable eating their heads off through lameness; it is absorbent and exercise assists action thereof.

Blisters, Liniments and Embrocations are counter-irritants, not absorbent, being composed mostly of grease; it is impossible for them to reach the muscles, tendons, joints and absorbent glands. "**NAVICULINE**" will reach them all; it does not contain any grease. Ask your druggist to order it for you; he will do so; it is invaluable to Horsemen, Trainers, Stockraisers, Farmers, etc. Be sure to ask for Prof. Mannington's Celebrated **NAVICULINE** Yellow Label. *Testimonials from any part of the United States forwarded on application.*

Price, $3 per Bottle.

ALLEN BURROWS, Druggist, = = Sheepshead Bay, N. Y.

Horse Owners Should Use
GOMBAULT'S

Caustic Balsam

The Great French Veterinary Remedy.

A SAFE, SPEEDY AND POSITIVE CURE.

Prepared exclusively by J. E. Gombault ex-Veterinary Surgeon to the French Government Stud

SUPERSEDES ALL CAUTERY OR FIRING

Impossible to produce any scar or blemish. **The safest best Blister** ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** Etc., it is invaluable.

WE GUARANTEE that one tablespoonful of **CAUSTIC BALSAM** will produce more actual results than a whole bottle of any liniment or spavin cure mixture ever made.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS CO., Cleveland, Ohio

Veterinarians' Call-Book.

By Roscoe R. Bell.

Indispensable to Practitioners and Students.

$1.25 Net.

W. R. JENKINS, 6TH AVE. & 48TH ST.,
NEW YORK.

In use by Veterinarians everywhere, third edition almost exhausted.

WORKS BY DR. LIAUTARD.

Animal Castration

The only work on the subject in the English language. Illustrated with nearly fifty engravings. 12mo, Cloth, $2.00.

The book is divided into several chapters, treating of all the various methods of castration of the horse, cattle, sheep, pigs and fowls, including the operation on cryptorchids, and of the accidents and complications arising as secondary to the operation.

Lameness of Horses

And Diseases of the Locomotory Apparatus. 12mo, Cloth, $2.50.

How to Tell the Age of the Domestic Animals

12mo, Cloth, 50 Cents.

This is a very excellent and lucid treatise on the age of the domestic animals, embodying the author's well-known chart on the subject and explaining simply and concisely the method of ascertaining the age of horses, cattle, sheep, dogs and pigs. The text is illustrated with over forty engravings of teeth, and the work is an invaluable one to the veterinary student, the buyer of animals, and the veterinary practitioner

Vade Mecum of Equine Anatomy

For the use of Advanced Students and Veterinarians. 12mo, Cloth, $2.00.

Zundel on the Horse's Foot

Translated by Dr. A. Liautard. 8vo, Cloth, Illustrated, $2.00.

This is a most complete and scientific treatise on the subject of the horse's foot, and its diseases, and its translation into English by such a distinguished veterinarian as Dr. Liautard must make it a valuable acquisition to the list of veterinary literature. It is practical and thorough in its description and the text is illustrated with numerous excellent illustrations.

Manual of Operative Surgery

Published in Cloth Binding at $6.00, postpaid.

The most complete work of Practical Operative Surgery. Printed in good, clear type and largely illustrated. The best book for Veterinary Students and General Practitioners.

Sent Postpaid on receipt of the price by the Publisher,

WILLIAM R. JENKINS,
851 & 853 Sixth Ave., 48th St., N. Y.

HYDROZONE

IS THE STRONGEST ANTISEPTIC KNOWN.

One ounce of this new Remedy is, for its Bactericide Power, equivalent to two ounces of Charles Marchand's Peroxide of Hydrogen (medicinal), which obtained the Highest Award at the World's Fair of Chicago, 1893, for

Stability, Strength, Purity and Excellency.

CURES DISEASES CAUSED BY GERMS:

DIPHTHERIA, SORE THROAT, CATARRH, HAY FEVER, LA GRIPPE,—OPEN SORES: ABSCESSES, CARBUNCLES, ULCERS,—INFECTIOUS DISEASES OF THE GENITO-URINARY ORGANS,—INFLAMMATORY AND CONTAGIOUS DISEASES OF THE ALIMENTARY TRACT: TYPHOID FEVER, TYPHUS, CHOLERA, YELLOW FEVER,—WOMEN'S WEAKNESSES: WHITES, LEUCORRHŒA,—SKIN DISEASES: ECZEMA, ACNE, ETC.

GLYCOZONE

Both Medal and Diploma

Awarded to Charles Marchand's Glycozone by World's Fair of Chicago, 1893, for its powerful healing properties. This harmless remedy prevents fermentation of food in the stomach and it cures:

DYSPEPSIA, GASTRITIS, ULCER OF THE STOMACH, HEART-BURN, AND ALL INFECTIOUS DISEASES OF THE ALIMENTARY TRACT.

Send for free 152-page book giving full information with endorsements of leading physicians. Physicians remitting express charges will receive free samples.

AVOID IMITATIONS.

Hydrozone is put up only in small, medium and large size bottles, bearing a red label, white letters, gold and blue border, with signature.

Charles Marchand's Peroxide of Hydrogen (medicinal) is put up only in 4-oz., 8-oz., and 16-oz. bottles, bearing a blue label, white letters, red and gold border, with signature.

Glycozone is sold only in 4-oz., 8-oz., and 16-oz. bottles, bearing a yellow label, white and black letters, red and blue border, with signature.

THESE REMEDIES ARE PREPARED ONLY BY

Charles Marchand

☞ Mention this publication.

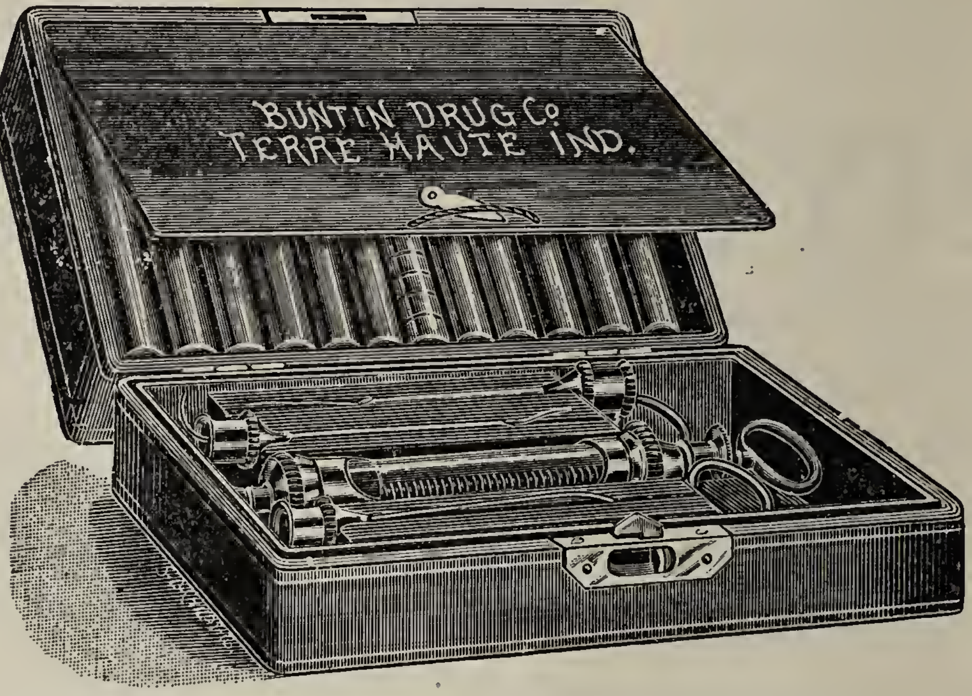
Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France).

Charles Marchand 28 Prince St., New York.

SOLD BY LEADING DRUGGISTS.

A most Popular Hypodermic Syringe with the Veterinary Medical Profession.

Substantial in Construction.



Perfect in Workmanship.

Our Syringes have "Buntin Drug Co," stamped into the metal barrel.

VETERINARY HYPODERMIC SYRINGE.

In Morocco case, velvet lined, containing two straight needles, one-half curved needle for intravenous injection, one trocar and canula, and twelve tubes for Hypodermic Tablets.

Our **Syringes are substantially made, especially for the use of Veterinary Surgeons,** with strong glass barrel of three drachms capacity, protected by fenestrated metal cylinder, with rings for thumb and fingers.

By removal of the lower metal end, one or more tablets may be placed directly in the syringe—replacing cap and attaching needle, water can then be drawn in upon the tablets and solution effected by shaking the syringe.

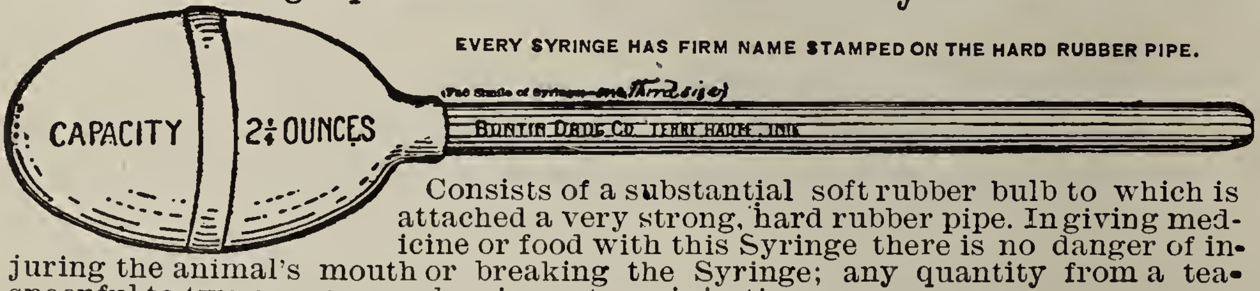
Our syringes are made with needles to attach either by slide or screw-thread. In ordering specify which is preferred.

Price of Syringe and case complete	$5.00
Extra Needles, straight	.35
Extra Needles, curved	.35
Extra Trocar and Canula	.50

BUNTIN DRUG CO'S VETERINARY BULB SYRINGE.

For administering Liquid Medicines to Horses & Cattle by the mouth or rectum

EVERY SYRINGE HAS FIRM NAME STAMPED ON THE HARD RUBBER PIPE.


CAPACITY
2¼ OUNCES
BUNTIN DRUG CO. TERRE HAUTE, IND.

Consists of a substantial soft rubber bulb to which is attached a very strong, hard rubber pipe. In giving medicine or food with this Syringe there is no danger of injuring the animal's mouth or breaking the Syringe; any quantity from a teaspoonful to two ounces may be given at one injection.

BUNTIN DRUG CO., TERRE HAUTE, INDIANA.

Manufacturers of Veterinary Hypodermic Tablets and Hypodermic Syringes.

Price on Bulb Syringes, 75c. each; per half doz., $4.00; per doz., $7.50

BUNTIN DRUG COMPANY,

600 Wabash Avenue, TERRE HAUTE, INDIANA.

EIMER & AMEND, Agents, 205-211 Third Ave., New York.

SOLUBLE HYPODERMIC TABLETS.

VETERINARY.

No.			Per tube of 10 tablets.	Per 100 (10 tubes).
114	Aconitine, Crystals	1-40 gr	$0 12	$1 00
115	Aconitine, Crystals	1-30 gr	13	1 15
100	Aconitine, Crystals	1-20 gr	15	1 30
116	Aconitine, Crystals	1-10 gr	17	1 50
117	Aconitine, Crystals	1- 6 gr	22	2 00
118	Aconitine, Crystals	1- 4 gr	27	2 50
101	Atropine Sulphate	1- 4 gr	15	1 30
121	Atropine Sulphate	1- 2 gr	18	1 60
119	Atropine Sulphate	1 gr	33	3 10
152	Cardiac Tonic		30	2 75
	Digitaline, Pure	1-10 gr.		
	Sparteine Sulph	1- 5 gr.		
	Strychnine, Nitrate	1- 8 gr.		
102	Cocaine Muriate	1 gr	43	4 00
124	Cocaine Muriate	1-½ grs	53	5 00
125	Cocaine Muriate	2 grs	64	6 00
120	Cocaine, 4½ grs. for Veterinary Anesthesia		1 25	12 00
	(One tablet dissolved in 1 drachm of water makes an 8-per cent. solution.)			
103	Colchicine	1- 4 gr	22	2 00
126	Colchicine	1- 2 gr	33	3 00
127	Colic		65	6 00
	Morphine Sulph	2 grs.		
	Atropine Sulph.	1- 4 gr.		
	Aconite Cryst	1-20 gr.		
104	Coniine Hydrobromate	1- 2 gr	22	2 00
128	Coniine Hydrobromate	1 gr	38	3 50
105	Digitaline, Pure	1- 8 gr	12	1 00
129	Digitaline, Pure	1- 4 gr	14	1 25
156	Ergotine	2 grs	30	2 75
157	Ergotine	4 grs	50	4 75
113	Eserine Salicylate	1- 4 gr	45	4 25
133	Eserine Salicylate	1- 2 gr	70	6 75
134	Eserine Salicylate	1 gr	1 25	12 00
135	Eserine Salicylate	1½ grs	1 85	18 00
106	Eserine Compound		1 60	15 50
	Eserine Salicylate	1- 4 gr.		
	Pilocarpine Muriate	1- 2 gr.		
	Strychnine	1- 8 gr.		
153	Eserine and Pilocarpine	2	2 60	25 50
	Eserine	1- 1 gr.		
	Pilocarpine	gr.		
154	Colic		6 00	
	Eserine Salicylate	1 gr.		
	Pilocarpine Mur.	3½ grs.		
107	Hyoscyamine Sulphate, Crystals	1- 8 gr	70	6 50
146	Myoscyamine Sulphate, Crystals	1- 4 gr	1 35	13 00
108	Morphine Sulphate	1 gr	19	1 75
136	Morphine Sulphate	1½ grs	27	2 50
137	Morphine Sulphate	2 gr	33	3 00
138	Morphine Sulphate	2½ grs	37	3 50
155	Morphine Sulphate	3 grs	50	4 75
109	Morphine and Atropine		34	3 25
	Morphine Sulph	1½ grs.		
	Atropine Sulph	½ gr.		
139	Morphine and Atropine		33	3 00
	Morphine Sulph	1½ grs.		
	Atropine Sulph	¼ gr.		
140	Morphine and Atropine		39	3 75
	Morphine Sulph	2 grs.		
	Atropine Sulph	1-4 gr.		
141	Morphine and Atropine		45	4 25
	Morphine Sulph	2½ grs.		
	Atropine Sulph	1-4 gr.		
142	Nitroglycerine	1-10 gr	14	1 25
143	Nitroglycerine	1-5 gr	17	1 50
110	Pilocarpine Muriate, Crystals	1-2 gr	1 00	9 75
144	Pilocarpine Muriate, Crystals	1 gr	1 90	18 50
145	Pilocarpine Muriate, Crystals	1½ gr	2 75	27 00
111	Sodium Arsenite	1 gr	12	1 00
112	Strychnine Sulphate	1-4 gr	12	1 00
147	Strychnine Sulphate	1-2 gr	13	1 10
148	Strychnine Sulphate	1 gr	14	1 25
149	Veratrine Muriate	1-4 gr	12	1 00
150	Veratrine Muriate	1-2 gr	14	1 20

Please order by number.

SALT BRICKS FOR HORSES.

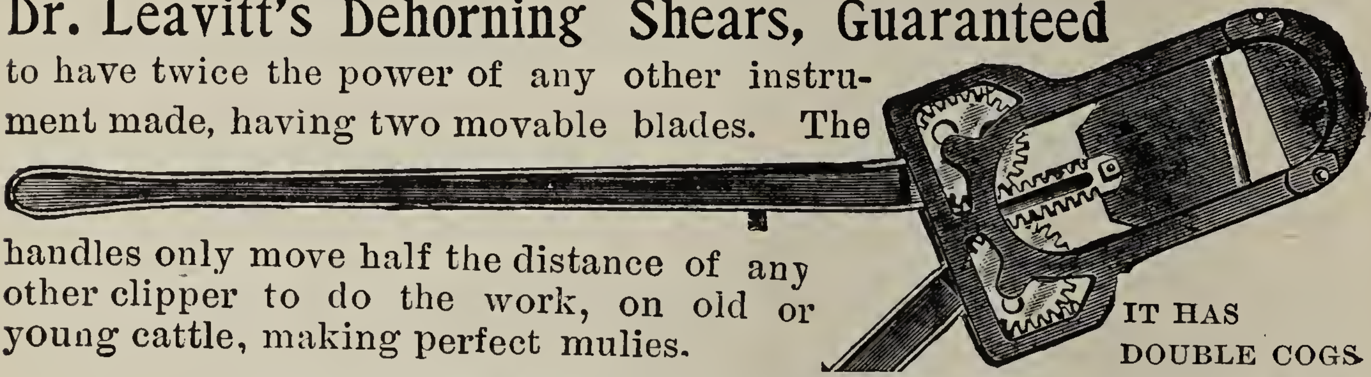
PURE SALT (*Refined*) acts as a tonic, invigorates the system, promotes digestion, purifies the blood, increases strength of bone and muscle; in fact, is a stimulus for the general health and thrift of animals, as well as with mankind.

ROCK SALT in its natural state, *is not pure salt.* It is contaminated with foreign substances, such as the sulphates and chlorides of magnesium and calcium, bromides, gypsum, grit, etc., which have to be expelled in the process of refining before it is fit to be used. This impure salt is gritty and bitter; it also has a burning, acrid and puckery taste. The animal eats it slowly and reluctantly, with poor satisfaction. It is more injurious than beneficial when used.

SALT BRICK MFG. CO., (*Write for circular.*)

259 GREENWICH ST. NEW YORK.

We invite Special Attention of Vet. Surgeons to the Pure Salt contained in these Bricks.


Dr. Leavitt's Dehorning Shears, Guaranteed to have twice the power of any other instrument made, having two movable blades. The handles only move half the distance of any other clipper to do the work, on old or young cattle, making perfect mulies.

IT HAS DOUBLE COGS.

Leavitt M'f'g. Co. Hammond, Ill., U S A

Dr. L. H. FRIEDBURG,

Analytical and Consulting

Chemist.

Professor of Chemistry and Toxicology at the American Veterinary College. Address,

384 Monroe St., Brooklyn, N. Y.

ANALYSES OF FOOD, WATER, MILK, MINERALS, ORES, &c. TOXICOLOGICAL AND OTHER SPECIAL INVESTIGATIONS INVITED.

CLUMBER SPANIELS,
COCKER SPANIELS,
SCOTTISH TERRIERS.

Newcastle Kennels, Brookline, Mass., U. S. A.

50 YEARS' EXPERIENCE.

PATENTS

TRADE MARKS, DESIGNS, COPYRIGHTS &c.

Anyone sending a sketch and description may quickly ascertain, free, whether an invention is probably patentable. Communications strictly confidential. Oldest agency for securing patents in America. We have a Washington office.

Patents taken through Munn & Co. receive special notice in the

SCIENTIFIC AMERICAN,

beautifully illustrated, largest circulation of any scientific journal, weekly, terms $3.00 a year; $1.50 six months. Specimen copies and HAND BOOK ON PATENTS sent free. Address

MUNN & CO.,
361 Broadway, New York.

THE MODERN SCHOOL
OF
VETERINARIANS.

I am not practicing human, but equine and canine medicine, and have only had one opportunity of testing the efficacy of **SANMETTO**, and that was a case of cystitis in a young setter bitch, in which case I used half drachm doses of **SANMETTO** four times daily with excellent results, the animal making a quick recovery. As dogs have many of the diseases of the human subject, any preparation which has a marked beneficial effect in human practice is certain to have the same in canine practice. I treat my canine patients entirely on the principles laid down in the human text books. I think **SANMETTO** would be a most valuable agent to overcome the kidney troubles and scanty secretion of urine in canine distempers, and it might be tried in one ounce doses in some of the inflammatory diseases of the urinary system of the horse with success. The Modern School of Veterinarians are finding daily how little difference there is between the constitution and diseases of man and the lower animals, and the Advanced School have entirely discarded the filthy, incompatible messes prescribed formerly, and use the best preparations in the market, with the result of giving more satisfaction, both to their patrons and themselves.

Catonsville, Md.
STUART E. PAULET, M.D.C.,
RESIDENT PHYSICIAN,
CATONSVILLE VETERINARY DISPENSARY.

Vitalizing Tonic to the Reproductive System.

SANMETTO

FOR

GENITO-URINARY DISEASES.

☞ **A Scientific Blending of True Santal and Saw Palmetto in a Pleasant Aromatic Vehicle.**

SPECIALLY VALUABLE IN

**Prostatic Troubles of Old Men--Pre-Senility,
Difficult Micturition--Urethral Inflammation,
Ovarian Pains--Irritable Bladder.**

POSITIVE MERIT AS A REBUILDER.

EQUALLY VALUABLE IN

**Diseases of the Genito-Urinary Systems
OF THE HORSE AND DOG.**

Dose.—Adult Person, one teaspoonful four times a day.
In Equine Practice, a half to an ounce three times a day.
In Canine Practice, a half to a teaspoonful three times a day.

Price: One Bottle, $1.00.—One Dozen Bottles, $8.00. To be had of all Druggists.

OD CHEM. CO., 15 Cedar Street, New York.

HARVARD UNIVERSITY,
SCHOOL OF VETERINARY MEDICINE.

The course is a **graded** one of three years of nine months each.

There are unequalled facilities for practical instruction in all branches ; and the hospital, maintained in connection with the school, places a large practice under the constant observation of students.

For illustrated catalogue, and all further information, apply to

CHARLES P. LYMAN, F.R.C.V.S., Dean.

Graduates of this school are eligible for membership in the United States Veterinary Medical Association.

The Kansas City Veterinary College,

1404-1406 Holmes Street,
Kansas City, = = = Missouri.

A three year graded course Unexcelled opportunity for acquiring a practical knowledge of Meat Inspection and Dairy Inspection. Applicants for admission must conform to the rules adopted by the Association of College Faculties of North America. . . . . . .

FOR CATALOGUE, ADDRESS . . . . **S. STEWART, Dean.**

UNIVERSITY OF PENNSYLVANIA.

VETERINARY DEPARTMENT.

The course of instruction is graded and extends over three years, with one session beginning the 1st of October and ending the last of May in each year.

Practical Instruction, including Laboratory Work in Pharmacy, Chemistry, General Biology, Histology, Physiology, Comparative Osteology, Dissecting, Botany, Pathology, Bacteriology, and Inspection of Meat and Milk, with personal care and treatment of animals in the hospitals and clinics, is a part of the regular course without additional expense.

Graduates of this school are eligible for membership in the United States Veterinary Medical Association.

For Catalogue, Address **JOHN MARSHALL, M. D.,** Dean of Veterinary Faculty,
Cor. 36th and Pine Sts., Philadelphia, Pa.

McGILL UNIVERSITY,

Faculty of Comparative Medicine and Veterinary Science,

(LATE MONTREAL VETERINARY COLLEGE)

Office, No. 6 Union Avenue, Montreal, Canada.

SESSION 1896-97 begins first week in October.

This school affords the advantages of a full University course, and the use of the laboratories and other appliances for teaching, equal to any similar institution.

For Calendar, giving full information, address

CHARLES McEACHRAN, D.V.S., Registrar,
No. 6 Union Avenue, MONTREAL.

McKILLIP VETERINARY COLLEGE,

CHICAGO.

The course of instruction at this College is systematic and thorough, giving a complete professional education. The College is backed by the largest veterinary practice in the country with the greatest opportunities for practical instruction, while at the same time it pursues the highest scientific work in its bacteriological laboratories for the production of blood serum preparations.

The course commences in October and extends over three years, with six months duration. Students graduating from this College are eligible to membership in the U. S. Veterinary Medical Association.

For catalogue and information, apply to

L. A. MERILLAT, Secretary.

University of the State of New York.

NEW YORK COLLEGE OF VETERINARY SURGEONS AND SCHOOL OF COMPARATIVE MEDICINE.

(Chartered 1857)

The Course of Instruction is Graded and Extends over Three Years of Six Months Each.

A large and well equipped hospital furnishes abundant material for clinical instruction, and thoroughly appointed laboratories are provided for practical work in chemistry, pharmacy histology, and bacteriology.

For circular giving detailed information apply to

H. D. GILL, V.S., Dean, 154 E. 57th St., New York.

ONTARIO VETERINARY COLLEGE,

40 and 42 Temperance Street, Toronto.

Patrons.—Governor-General of Canada and Lieutenant-Governor of Ontario.

SESSION 1896-97 BEGINS IN OCTOBER.

All Experienced Teachers. Fees, $60.00 per Session.

Prof. SMITH, V.S. (Edin.) F.R.C.V.S., Etc., Principal.

CHICAGO VETERINARY COLLEGE

2537 and 2539 State Street, Chicago, Ills.

Organized and Incorporated under the Laws of the State of Illinois, 1883.

Regular Session commences the first week in October in each year.

For Prospectus giving all information as to curriculum, fees, etc., address the Secretary

JOSEPH HUGHES, M.R.C.V.S.,
2537 and 2539 State St., Chicago, Ills.

UNITED STATES COLLEGE OF VETERINARY SURGEONS,

222 C Street, N. W., Washington, D. C.

The course of instruction is graded and conforms to the rules adopted by The Association of Veterinary Faculties of North America.

LECTURE FEES, $65.00 per annum. *For Prospectus and Full Information, Address,*

C. BARNWELL ROBINSON, V. S., Dean.

NEW YORK STATE VETERINARY COLLEGE,

ESTABLISHED AT

CORNELL UNIVERSITY, ITHACA, N. Y.

BY STATE LEGISLATIVE ENACTMENT.

Thorough Scientific and Practical training in all departments. The location allows of extensive clinics in all meat producing animals, as well as in horses and dogs, to which latter the clinics are restricted in city colleges. Unequalled facilities also for advanced study and investigation. Entrance by Regents' "*Veterinary Student* Certificate," or by *Examination*, September 15th, 1896. Instruction begins September 21st, 1896.

For extended announcement address:

Professor JAMES LAW, F. R. C. V. S., Director,
State Veterinary College, **ITHACA, N. Y.**

"SURE STEP"

RUBBER CUSHION TREAD

HORSE SHOE

PATD OCT. 1896.
FREDERICK W. HAHN.
NEW YORK.

Absolutely Perfect in
Shape, Size, Weight and Durability.

Positively Preventing Horses from Slipping or Stumbling

Adopted and in use by leading Fire Departments, Livery and Private Stables. Consists of Stub Skeleton Shoe, provided with **RUBBER CUSHION TREAD.** Adapted to take a firm hold upon the ground. Price per set, complete, $2.00. Send for circulars. Agents wanted.

F. W. HAHN, 356 Grand St., New York.

ESTABLISHED 1851.

EIMER & AMEND,

Wholesale Druggists,

205, 207, 209 and 211 Third Avenue, New York,

(18th Street. Elevated R. R. Station)

Make a Specialty of all

Drugs,
Extracts,
Tinctures,
Chemicals,
ETC., ETC.,

Used in Veterinary Practice.

PLANTEN'S Empty Veterinary CAPSULES

For Oral use, 7 Sizes: 1-2, 1, 2, 3, 4, 8 and 12 drachms.
" Rectal " 3 " 1-2, 1 and 1 1-2 ounce.
Sample Box, all sizes, 25 cents.

Send for detailed price list.

H. PLANTEN & SON, ESTABLISHED 1836.
224 WILLIAM STREET, NEW YORK.

Volume XXI

OF THE

AMERICAN VETERINARY REVIEW

begins with the next number. Those whose subscriptions terminate with Volume XX, are reminded that they must forward three ($3) dollars to the Publishers before that date (April 1st) if they wish the REVIEW continued to their address. The Publishers trust that all who profited by the closing Volume will promptly renew their subscriptions for the new one, which they guarantee to be even better than its predecessor.

Fill out the attached order and mail
to the address given.

LIAUTARD & BELL,
141 West 54th St., New York.

Enclosed please find three dollars ($3), for which send the AMERICAN VETERINARY REVIEW *to my address, beginning with the .... number.*

Name ....

Post Office ....

County ....

State ....

UNIVERSITY OF ILLINOIS-URBANA
619.05AV C002
JOURNAL.$NY
20 1896-97 AP-MR
3 0112 005876864